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THE ROLE AND EFFECT OF CORPORATE GOVERNANCE AND REMUNERATION CONSULTANTS ON CEO COMPENSATION: EMPIRICAL EVIDENCE FROM UK COMPANIES

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Abstract

This thesis investigates the role and effect of different aspects of corporate governance, ownership structure and remuneration consultants on determining the level and the structure of CEO compensation. The main objective of this research is to better understand the impact of these aspects on compensation of Chief Executive Officers (CEOs) in UK firms. Two models are constructed and a set of hypotheses is developed. These models are tested using a sample consisting of the top 350 companies listed on the London Stock Exchange. Firms in the financial, investment and insurance industries are excluded due to the different nature of their accounting, governance, and compensation practices. The study covers the period of five financial years (2004-2008). Twenty-two hypotheses are derived from both models. These hypotheses are tested using multivariate techniques in order to determine to what extent corporate governance, ownership and remuneration consultants' attributes play a role in monitoring managers and setting appropriate CEO compensation.

Using a sample of 237 non-financial FTSE 350 firms during 2004-2008 (i.e. 851 firm-year observations), and after controlling for the standard economic and human capital determinants of compensation, this study finds that corporate governance, ownership and remuneration consultants' characteristics play an important role in determining CEO compensation. However, the findings do not suggest that these attributes always play a positive role in constraining opportunistic managerial behaviour. Surprisingly, some of the governance attributes have been found to facilitate the executives' needs rather than to attempt to monitor them. The findings of the thesis suggest that a number of theoretical perspectives can be used to explain the relationship between corporate governance, remuneration consultants and CEO compensation in the UK firms. For example, while the findings of board independence and CEO duality provide strong support to the stewardship theory, as firms enjoy better compensation governance when their boards contain more executive directors and are chaired by CEOs, the results of chairman independence and ownership, and remuneration committee independence, are found to be in line with both agency theory and the alignment of interests' hypothesis of agency theory since we find these variables play a strong role in mitigating the agency problems and agency costs through setting appropriate CEO compensation.

Conversely, the managerial power perspective receives great support from the findings of a number of governance, ownership, and consultants' variables. That is, the analysis concludes that larger boards, well-compensated board and remuneration committee non-executive directors, CEOs with greater share ownership, CEOs sitting on the remuneration committee, less independent remuneration consultants, and the switch of remuneration consultants all play significant roles in increasing the level of CEO compensation and setting inappropriate designs for remuneration that are more favourable to the CEO (i.e. more fixed and less equity-based compensation).

Overall, the findings of this thesis imply that shareholders, regulators, and practitioners should be concerned about the composition and the characteristics of a firm's board of directors, remuneration committee, and external directors who comprise the firm's internal control structure as this research finds that the quality of corporate and compensation governance varies depending on board and remuneration committee size and characteristics. Furthermore, it is advised that the relevant parties should pay attention to the remuneration consultants' independence status and characteristics since this study finds that independent, specialized, and larger remuneration consultants play a significant role in enhancing the quality of compensation arrangements'. Therefore, this study offers new insights over the effect that corporate governance and remuneration consultants can exert over the design of CEO compensation contracts.

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Declaration

I hereby declare that the materials contained in this thesis have not been previously submitted for a degree in this or any other university. I further declare that this thesis is solely base on my own research.

Saleh Alagla

Statement of Copyright

"The copyright of this thesis rests with the author. No quotation from it should be published without the prior written consent and information derived from it should be acknowledged."

Saleh Alagla

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Dedication

*I heartily dedicate this work to the three most important and inspirational people in my life. Firstly, to the first love of my life, the first name that I spoke, my beloved mother. Secondly, to the person who has inspired and reenergised my life, the person who has made me more mature and, soon, will make me a proud father, my beautiful loving wife. Thirdly, to the one who has changed my life and personality, the one who I love before I even see him, my son **Yusuf**, who is about to come to this life, InShaAllah.*

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Chapter One

Introduction: The Research

1.1 Introduction

Corporate governance and executive compensation are two areas which have recently been the subject of considerable attention from academics, practitioners and regulatory bodies. This is due to a number of global scandals which have collectively increased the need for more robust regulation, such as the UK Corporate Governance Codes and the Sarbanes-Oxley (SOX) Act of 2002, and which have furthermore strongly heightened demands to increase shareholder power over the firms they own. These scandals have shed some light on problems with regard to the extent to which executives control and run large firms on their own. However, despite the increasing desire of shareholders to alleviate the problems, executive compensation has remained a high profile and emotive subject (Alagla et al, 2011a). This is primarily due to the recent financial crisis, as executives have been continued to receive compensation deemed to be excessive at a time when firm performance and stock prices have declined (Chen et al. 2010; Jarman and White, 2010; Wang et al, 2011; Conyon and He, 2011). The UK Corporate Governance Code (2010) states that "Levels of remuneration should be sufficient to attract, retain and motivate directors of the quality required to run the company successfully, but a company should avoid paying more than necessary for this purpose. A significant proportion of executive director's remuneration should be structured so as to link rewards to corporate and individuals' performance" (Main Principle, D.1).

The main debate in the literature is that due to the separation of ownership from control, and managerial influence over internal governance structure of firms, executive compensation packages are designed to maximize executive wealth rather than the firm's value. That is, executives may take advantage of their power over the remuneration process to award themselves a level and structure of compensation that is more in their favour, than that of the shareholders. In firms with a stronger and more effective governance structure, however, it is difficult for managers to influence the remuneration decision making process and thus to affect their compensation-setting process. Accordingly, managerial power over the remuneration process increases as the quality of corporate governance decreases, and vice versa.

Theorists, academics, practitioners, and regulators suggest that executive compensation is determined by input from four main sources: shareholders, boards of directors, remuneration

committees and remuneration consultants. Inputs from these four sources are then further influenced by human capital and firm-specific characteristics. Therefore, the quality of corporate and executive compensation governance that is used in bringing together the interests of managers and shareholders is generated by active shareholders, effective boards of directors and well-organized remuneration committees as internal mechanisms, along with external compensation advice and recommendations provided by professional remuneration consultants who act as a further external control mechanism (Alagla et al, 2011a). Together, these may affect the quality of executive pay.

Figure 1.1 demonstrates the pay-setting process and cycle in UK firms. As discussed above, shareholders play an important role in determining executive compensation in two ways. Firstly, by voting on the proposed remuneration policy at Annual General Meetings (AGM) and, secondly, by electing and/or re-electing non-executive directors to the board of directors. The board of directors is also predicted to be one of the main determinants of executive compensation through, firstly, approving both the remuneration policy and the proposed level and structure of executive compensation and, secondly, comprising and selecting members for the remuneration committee, together with supplying important information such as the firm's future strategies to the remuneration committee, in order to build the firm's remuneration policy based on such information (Fama and Jensen, 1983).

According to the Figure, the remuneration committee seems to have a great impact on the process. The main function of founding such a committee is to help to determine executive compensation and to evaluate managerial performance. Also, regulators have recently required firms to give the responsibility of hiring remuneration consultants to the remuneration committee, which increases the importance of the role that the committee plays in the pay-setting cycle. Finally, the fourth main determinant of executive compensation is external remuneration consultants. Due to the lack of knowledge and information about competitive compensation, firms and/or remuneration committees often use external advisors who can bring specialised knowledge and expertise in managerial remuneration to supply advice and make recommendations to the committee. Accordingly, these consultants are predicted to have a great impact on the pay-setting process since they significantly influence the control decisions with respect to the level and the structure of executive compensation (Cadman et al., 2010; Murphy and Sandino, 2010; Conyon et al, 2011).

This thesis tries to cover all aspects of the expected determinants of CEO compensation within UK firms, and is centrally concerned with investigating the role of corporate governance and remuneration consultants in setting and designing CEO compensation. Through examining the effect of ownership structure, the composition and characteristics of boards of directors and remuneration

committees, along with analysing the role and effect of remuneration consultants (controlling for human capital and firm-specific determinants), this study aims to offer a comprehensive examination of the impact of these proposed determinants in determining the level and the structure of CEO compensation.

Figure 1.1 Pay-setting process and determinants in the UK
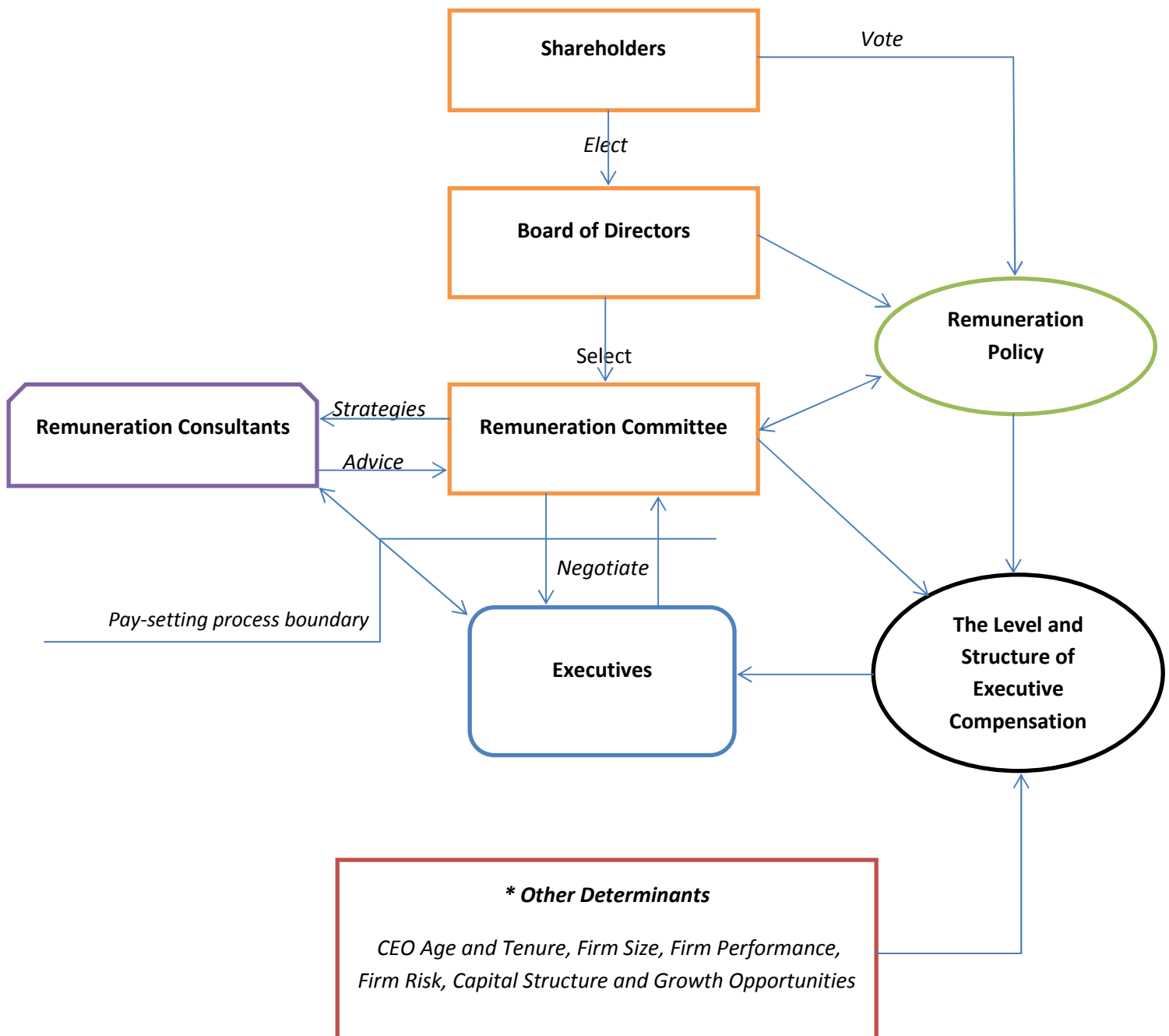
Source: Own construction

In this chapter, the research question addressed by the thesis will be considered. The usage of the chosen attributes, the time period, and the sample characteristics will be justified. This includes suggesting the main reasons for conducting this research on UK-based firms. In the third section of this chapter the theoretical and practical problems that motivated the researcher to conduct this research are discussed. The contribution of the study to knowledge and to the existing literature in corporate governance, remuneration consultation and executive compensation are illustrated. Finally, the structure of the remaining chapters of the thesis is laid out in the last section of this chapter.

1.2 Addressing the Problem

This study's main objective is to investigate the impact of both corporate governance and the attributes of remuneration consultants on CEO compensation. CEO compensation is measured using seven different variables to reflect short-term and long-term compensation and also total compensation. A review of the related literature shows twenty three identifiable attributes that may have an effect on determining CEO compensation and enhancing compensation governance. These attributes represent four categories of corporate governance control mechanisms: Board of Directors Composition, Remuneration Committee Characteristics, Ownership Structure, and Remuneration Consultants' Characteristics. The remuneration consultant factors include consultants' independence and characteristics.

These attributes are mainly selected for the following reasons: firstly, corporate governance variables that are predicted to have an impact on CEO compensation practices according to the agency, stewardship, optimal contracting and managerial power perspectives which will be discussed and investigated in Chapter Three. This includes internal monitoring by boards of directors, remuneration committees and ownership structure (Jensen and Meckling, 1976; Fama, 1980; Fama and Jensen, 1983), and external monitoring by remuneration consultants (Bebchuk et al., 2002). Secondly, it can be argued that corporate governance and remuneration consultants' characteristics, on which there is a lack of research according to the literature surveyed, might also have impact on CEO compensation. This includes variables such as chairman and directors' independence, the structure of remuneration committee and ownership, and the role and effect of remuneration consultants.

These variables are utilized in this study to evaluate the effect of corporate governance mechanisms and remuneration consultants on CEO compensation. Consistent with the above discussion, the main research question is: *do corporate governance mechanisms and independent remuneration*

consultants constrain opportunistic managerial behaviour by reducing CEO compensation and setting appropriate executive compensation package in the UK?

In line with this view, this study investigates the proposed research question using the UK environment. The choice of the UK business environment is justifiable because in the UK, the Financial Services Authority (FSA) introduced the first corporate governance combined code in November 2003. This included a number of new recommendations in order to enhance corporate governance practices and to align the managers-shareholders' interests. However, the effectiveness of the UK amendments and development in terms of corporate governance are still empirically undiscovered compared with similar reforms in the US (e.g. the Sarbanes–Oxley Act in 2002).

Furthermore, while there are a large number of studies that have investigated the role of corporate governance on executive compensation in the US, research on the role of corporate governance in enhancing compensation governance in the UK remains very scarce with only a few studies paying attention to this issue. In addition, most of the studies that have investigated this issue in the UK have used a sample period prior to the introduction of these corporate governance reforms and have only covered a very few corporate governance aspects. Moreover, the UK business environment is different from that of the US and of other countries in many aspects that could affect the inferences of this study. For instance, while the UK Corporate Governance Codes require FTSE listed firms to either comply with the recommendation or explain why they are not so doing, the US regulatory bodies insist on applying the legal strictures of the Securities and Exchange Commission (SEC, 1993, 2006) or the NYSE (2004) and NASDAQ (2004) compulsory listing requirements.

Another important advantage of using UK data in terms of investigating issues that are related to remuneration consultants is that the UK policymakers were the first to pay considerable attention to the importance of remuneration consultants in corporate and compensation governance. The UK was the first country that required public firms to publish comprehensive and detailed information about the external remuneration consultants that such firms hire. That is, while detailed information about firms' remuneration consultants has been available in the UK since the introduction of the Directors' Remuneration Report Regulations in 2002, similar information has not been available in the US until the relevant legislation was introduced in 2006 (Securities and Exchange Commission, 2006).

More importantly, the UK disclosure requirements have more depth and breadth than their US counterparts, and provide important information that enables researchers to investigate more dimensions of the issue compared with those of the US. For example, UK firms are required to

disclose whether the remuneration consultants provide other services to the focal firm, whereas this information is not mandatorily required in the US. Therefore, conducting such research in the UK is predicted to enable researchers to exploit the older and higher quality disclosure requirements as a means of investigating more dimensions of the issue in both the short-term and the long-term.

Finally, it is arguably more relevant to conduct this research using a sample of firms from the same country since the researcher is based in the UK. This will make the researcher more aware of the country's rules, regulations, culture and business environment that are related to the study. Also, the availability of corporate governance and compensation data with regard to UK firms makes this study achievable.

1.3 Study Motivation

Compared relatively with the scrutiny afforded to corporate governance and executive compensation in other countries, these topics have received considerable attention in the UK during the last two decades. As a response to this increased attention, several reports have been issued in order to provide guidelines for corporate governance and executive compensation best-practice, e.g. Cadbury (1992), Greenbury (1995), Hampel (1998), Directors' Remuneration Report Regulations (2002), and the UK Corporate Governance Code (2003, 2006, 2008, 2010). A number of these reports' recommendations have highlighted some important issues with respect to a best-practice framework for setting executive compensation and have proposed some recommendations that aim to enhance the quality of executive compensation disclosure. However, some statistics have demonstrated that CEO compensation in the UK has increased by a staggering extent in the last two decades. For example, according to the Institute of Directors and Croner Reward (2005) UK executive compensation has increased by more than 400% over the last two decades. This rate of increase significantly exceeds both the inflation rate and the growth in the average worker's pay.

The recent global financial crisis has shed more light on this issue and has raised concern in the highest level of governments around the world. For instance, President Obama, when he presented his economic reforms just two weeks after the American presidential ceremony said that "For top executives to award themselves these kinds of compensation packages in the midst of this economic crisis is not just bad taste, it is a bad strategy and I will not tolerate it. We are going to be demanding some restraint in exchange for federal aid - so that when firms seek new federal dollars, we won't find them up to the same old tricks", also he added "We are going to be taking a look at broader reforms so that executives are compensated for sound risk management and rewarded for growth measured over years, not just days or weeks" (CNN, February 4th, 2009).

Similarly, Gordon Brown, the former Prime Minister of the UK, strongly criticized the practices of executive remuneration and insisted that there must be "no rewards for failure". Also, he emphasized the importance of awarding for success through setting appropriate remuneration packages by stating that "…in sweeping aside the old short-term bonus culture of the past and replacing it first of all with a determination that there are no rewards for failure and secondly that there are rewards only for long-term success" (The Times, February 9th, 2009). Although the causes of the recent global economic crisis have not yet been extensively investigated, at least in the academic literature, this high-level of concern gives us an indication that this issue could be a part of the problem. Therefore, the importance of this issue arises from the current complicated economic situation.

In spite of these worldwide concerns, a review of the executive compensation literature shows a scarcity of research relating the phenomenon of executive compensation to corporate governance attributes such as the composition of boards of directors and remuneration committees, and ownership structure, which are the main internal determinants of executive compensation. Moreover, at the beginning of this research in 2008, as far as I know, there was no single published study that mainly and quantitatively addressed the issue of the effect of remuneration consultants in terms of determining executive compensation. However, during the period when this research was undertaken, several studies were published which investigated issues that related to the role of remuneration consultants in setting executive compensation. This reflects both the importance of the role of remuneration consultants in setting managerial compensation and also the lack of research on the subject. There is, accordingly, a great incentive to discover the impact of these attributes on CEO compensation by empirically investigating this issue.

Furthermore, despite the crucial role that UK corporate governance plays in terms of global business regulations and practices as a renowned leader in this area, a review of UK corporate governance and executive compensation illustrates a scarcity of research relating to this issue in the UK and very few studies that have investigated UK firms. Additionally, as will be demonstrated in detail in the literature review chapter, the UK-based studies that do exist have utilised relatively old data, and have some methodological limitations. Therefore, a comprehensive research effort that takes the limitations of the previous research into consideration is needed to improve and update corporate governance and executive compensation research in the UK context.

Finally, as mentioned above, the corporate governance codes and regulations in the UK have been developed incrementally over time through a long process of amendments and improvements. As such, the effectiveness and validity of these codes' requirements and recommendations are, at least

empirically, not established yet. Therefore, the extent of the effectiveness of the provisions contained in the regulations in both enhancing the compliance levels in public companies and in aligning the owners-managers' interests needs to be examined.

1.4 Contribution of the Study

Firstly, in terms of the dependent variables, this research will provide more accurate measures for CEO compensation. This because while previous studies measured the total CEO compensation by calculating the sum of specific short-term and long-term components (e.g. salary, bonus, Long-Term Incentive Plans (LTIPs), Executive Stock Options (ESOs)) which did not often reflect the total compensation that was received by, or granted to, the CEO, this study seeks to observe a holistic view of the overall remuneration package and therefore provides a more comprehensive and accurate measure of total CEO compensation. All reported compensation components in firms' annual reports are collected together with other main components in order to determine the actual amount of compensation that was awarded or granted to the CEOs in the study's sample. Similarly, the dependent variables operating in the total-short term and the total-long term contain other components that are reported in the firms' annual reports, but not included in the analysis as main elements. These include benefits, allowances, perquisites, deferred bonuses, Save as You Earn (SAYE), etc., which also reflect the actual value of these variables.

Moreover, while most previous studies have merely used the total CEO compensation and/or total CEO short-term compensation to investigate the relationship between corporate governance and CEO compensation, this study uses six compensation variables together with the total CEO compensation to accurately identify the implications of the explanatory variables on both the level of and structure of CEO compensation. Therefore, this study provides a comprehensive analysis of the determinants of each pay component, to identify the theoretical and practical implications of these determinants, since relying only on the total CEO compensation can produce misleading findings (Voulgaris et al., 2010). Furthermore, different measures for Executive Long-Term Incentive Plans and Stock Options are used, together with different estimation methods in both the primary and sensitivity analyses, in order to provide valid and reliable results. Mainly, the study's analyses produce consistent findings in terms of different estimation methods, which strengthen the conclusions and the recommendations that are drawn from this study's statistical analyses.

Secondly, this study provides a novel contribution to executive compensation literature since it is the first to examine the effect of a number of corporate governance mechanisms and a few remuneration consultants' characteristics on CEO compensation. This study contributes to the scant

existing literature, both by examining new corporate governance variables and by using more accurately representative proxies than previously used variables. These are as follows:

1. In examining the impact of board independence, previous studies generally relied on the proportion of non-executive directors or the proportion of insider directors on the board, to measure the board's independence. However, this proxy might be inaccurate since not all non-executive directors are actually independent. In order to overcome this measurement error, this study employs another measure for board independence, together with the proportion of non-executive directors, by applying the Code's independence criteria (the UK Corporate Governance Combined Code, 2003) on each non-executive director to determine the actual fraction of independent directors and thus the degree of board independence.

2. Another important measure of board independence is the independency status of the chairman of the board. To the best of my knowledge, there is no single study that has investigated the impact and the effectiveness of a board of directors with an independent chairman in monitoring management with respect to executive compensation. In order to measure the chairman's independency status, this study determines the level of the chairman's independence by applying the Code's chairman independence criteria to each chairman in the study's sample. In this regard, this study makes an important contribution towards the understanding of the interacting role of the independency status of the chairman of the board of directors in setting appropriate CEO compensation schemes.

3. Similarly, in measuring the remuneration committee's independence, this study applies the Code's criteria to each member sitting on this committee. This differs from the few previous pieces of research which have examined this relationship using either the proportion of non-executive directors or the proportion of insider directors on the remuneration committee (e.g. Daily et al., 1998; Newman and Mozes, 1999; Vafeas, 2003; Anderson and Bizjak, 2003; Wang et al, 2011). Moreover, this is the first study that investigates the effect of the independent remuneration committee on determining the level and the structure of CEO compensation using UK data.

4. The Corporate Governance Combined Code (2006) assumes that the function of the remuneration committee can be affected if the position of the remuneration committee chairman is held by the chairman of the board. The code requires firms to separate the position of the chairman of the remuneration committee from the position of chairman of the board (provision, B.2.1). This the first study that investigates the impact of the duality of the remuneration committee and the board chairmanship on the level and the structure of the CEO compensation.

5. In terms of the remuneration committee size, only one study (Sun and Cahan, 2009) currently found which investigates the impact of the remuneration committee size on the CEO cash compensation. In advancing this work, this research is the first to investigate the impact of this variable on the level and the structure of CEO compensation. Moreover, this study records the first attempt to examine the effect of remuneration committee size on determining the level and the structure of CEO compensation using UK data.

6. Although there are a few studies that have discussed and examined the effect of managerial power that comes from the CEOs of other firms who sit on the remuneration committee on setting the CEO compensation, all of them are US-based. Therefore, this study is the first attempt to examine this variable on a UK dataset, and thus this is the first study to investigate the impact of CEOs of other firms sitting on the remuneration committee, and involved in determining CEO compensation using non-US data.

7. With respect to other remuneration committee attributes that are examined in this study, a paucity of research is also noted. That is, in terms of remuneration committee members' tenure, only one study is found to investigate the impact of this variable – which is that of Vefeas (2003). The same scarcity was found with respect to the remuneration committee members' pay. Conyon and He (2004) is the only research that examines the effect of this variable on CEO equity-based and total compensation. However, the researchers did not include CEO cash compensation and other components in their analysis. Also, both studies are US-based research. Therefore, this study contributes to the existing literature by investigating the role of the remuneration committee members' tenure and pay in determining the level and the structure of CEO compensation, using a set of UK panel data.

8. Although it is theoretically possible that a chairman of a board of directors with no significant share ownership will have less incentive to monitor top management (Brickley et al., 1988; Weisbach, 1988; Jensen and Warner, 1988), there is no single study that has addressed the role of chairman share ownership in enhancing executive compensation governance or of corporate governance quality in general. Therefore, this study contributes to the executive compensation and corporate governance literature by discussing and examining the role of chairman share ownership in monitoring managers and setting appropriate compensation schemes.

Thirdly, this study offers a second empirical model which investigates the effect of remuneration consultants in setting executive compensation. As mentioned earlier, at the commencement of this study there was no single piece of research that had quantitatively examined the effect of

remuneration consultants in determining executive compensation. However, due to the improvement in related disclosure quality, several studies have since been published in the last three years with respect to the impact of remuneration consultants on CEO compensation. Although these studies have some important theoretical and practical implications, they nevertheless contain some crucial limitations. A brief review of these limitations is offered below and a clear outline provided of how this study contributes to the existing literature by filling the gaps which have resulted from these limitations.

1. All the studies that have examined the conflict of interests associated with consultants are limited by the use of cross-sections of data, which may lead to several inherent limitations in such studies. For example, while all these studies have explained the positive relationship between the use of remuneration consultants and CEO compensation under managerial power theory, the use of remuneration consultants might be endogenous, and therefore subject to omitted variables biases. In other words, larger and more complex firms that require higher quality executives often need remuneration consultants to set appropriate executive compensation packages to avoid costly mistakes, along with talented executives who receive greater compensation, are predicted to have a greater tendency to hire remuneration consultants, which makes it difficult to interpret this positive correlation in terms of managerial power theory.

Therefore, as cross-sectional data is statistically found to have less ability to control for the problem of endogeneity, using panel or longitudinal data is expected to help in controlling for such a problem by testing within-firm variations using multi-period setting. This will provide a clearer picture of the impact of the use of remuneration consultants and conflicted consultants with regard to CEO compensation (Conyon et al., 2009). Also, it can be argued that there might be a weakness in cross-sectional data since some of the effects of the current variable will clearly be visible in the next year, and using such data might not account for such possibilities. Finally, panel data is attractive since it usually includes much more information than single cross-sections, and therefore allows for an increased precision in estimation (Hoechle, 2007).

2. All previous research that examined the impact of conflicted consultants on CEO compensation are based on data for the first fiscal year when the new disclosure rules with regard to remuneration consultants' information were imposed. That is, in the US, Conyon et al. (2009), Cadman et al. (2010), Armstrong et al. (2010), and Murphy and Sandino (2010) used data corresponding to the year 2006, and in the UK, Conyon et al. (2009) and Conyon et al. (2011) used data from the year 2003, which reflects the transition-years in both countries. Therefore, using similar sets of data for

the same year and in the same country to investigate the same issue on the part of all these studies may lead to biased findings.

Moreover, using transition-year data may not accurately reflect the actual practices and might contains some potential transition-year effects inherent in such data. For example, Murphy and Sandino (2010) found that there was no complete compliance on the part of many US firms in terms of the new disclosure requirements during the transition-year, and the narratives in disclosure rules might not have been as informative as they became in the following years. In line with this finding, the US Securities and Exchange Commission (SEC) sent notes to around 300 US firms criticizing their first year disclosures and requiring more disclosure in terms of information and quality (Wall Street Journal, Aug 31st, 2007). Therefore, this study will be the first to provide evidence of the impact of conflicted consultants on the level and the structure of CEO compensation on a different set of data (i.e. a non-transition-year data set).

3. Since US firm are not mandated to disclose whether or not the remuneration consultants provide other services to the firm, US studies employ some other measures that might contain some measurement errors, as discussed previously. Consequently, their findings should be taken with a hint of caution. In contrast to the US literature, this study takes advantage of the better disclosure practice in the UK, and investigates this issue using reliable published data by using a direct proxy of providing other services or cross-selling. More importantly, in contrast to all previous studies, including the UK ones, this study finds strong evidence that conflicted consultants are associated with higher levels of CEO compensation.

4. Most previous studies have examined the effect of remuneration consultants' characteristics on the total compensation for a CEO. However, remuneration consultants can potentially affect many other dimensions of the CEO compensation structure, not just the level of total compensation (Conyon et al., 2009), which may result in a misleading interpretation for the theoretical implications of the findings. For example, while all of the studies that found a positive relationship between the use of remuneration consultants and the CEO's total compensation interpret this relationship in terms of managerial power theory, Voulgaris et al. (2010) found that this positive relationship provides a strong support to the optimal contracting theory, since they found that this increase in the CEO's total pay is mainly generated by the increase in the equity-based components, which are theoretically supposed to increase the pay-performance sensitivity. Therefore, in order to sufficiently explain the theoretical implications of the findings, this study examines the effect of these variables on all important compensation components that must be included in the analysis

(i.e. salary, bonus, total short-term compensation, LTIPs, ESOs and total long-term compensation) as part of the total compensation.

5. This study examines the impact of two variables that might reflect the potential conflict of interest, together with providing other service variables which have not yet been investigated in the UK context; namely, the consultant appointment process and whether or not the consultant is specialised in compensation services.

6. Although the use of legal advisors in the remuneration process is a common practice among UK firms, there is no single published research that has addressed the issue of the usage of remuneration legal advisors as part of executive compensation practices. This study is the first that theoretically and empirically investigates the effect of using legal advisors to provide advice on CEO compensation.

Fourthly, an attractive feature of studying this issue in the UK context is that the corporate governance regulations in the UK have been paid a great attention during the last two decades, and have been through a relatively long process of amendment and enhancement to create the recent series of codes. This research conducts the first in-depth examination of the relationship between corporate governance mechanisms and CEO compensation practice in the UK since the introduction of the UK Corporate Governance Code (2003). This study is expected to shed light on the effectiveness of the recent corporate governance recommendations in improving executive compensation practices in the UK.

Moreover, one of the most notable limitations is the time periods that were used in these studies. Most of the previous studies considered time periods previous to the recent UK corporate governance reforms which limits the generalisability and universality of their findings and recommendations. Additionally, it is also important to recognise that these studies were conducted before the recent disclosure requirements (Directors' Remuneration Report Regulations, 2002), which introduced to enhance the level of disclosure and increase the accountability of remuneration committees. Another key change is that it has been made a requirement that the directors' remuneration report be subject to audit by an external auditor. The latter development has increased the reliability of the compensation data and mitigates the possibility of manipulating actions compared with the pre-report data. Therefore, this research alleviates this limitation by utilising the most recent UK data (i.e. 2004-2008) and deals with the period after significant reform actions and regulatory changes had taken place (the UK Corporate Governance, 2003 and 2006; Directors' Remuneration Report Regulations, 2002). Hence, the study captures the impact of the

amendments on UK remuneration practices in both the short-term and long-term, and provides the most recent investigation in the literature.

Fifthly, the previous literature mainly involves US-based studies. There is little research into the relationship between corporate governance mechanisms and executive compensation in the UK (see, for example, Conyon and Peck, 1998; Bonet and Conyon, 2005; Ozkan, 2007). Although the UK and the US are similar in many respects, various Fexist (Hofstede, 2001). With respect to corporate governance practice and regulations, numerous international accounting research reports have reported a number of differences in the structure and composition of boards, executive compensation levels and sub-committees functions (Conyon and Murphy, 2000; Monks and Minow, 2004; Coffee, 2005; Ferguson et al., 2004). Accordingly, it is highly useful to conduct research in a different business environment than that of the US in order to identify the differences, if any, that might be generated by the various organisational and economic differences in the UK.

Finally, the analysis contributes to the empirical evidence on agency cost by providing useful insights into how governance mechanisms and CEO compensation can mitigate the related agency problems. The findings of this research are expected to contribute to the existing debate on the role of the board of directors, remuneration committees, ownership structure and external remuneration consultants in aligning the managers-shareholders' interests by setting appropriate CEO compensation arrangements. Furthermore, this study provides evidence of the impact of corporate governance mechanisms and of remuneration consultants on CEO compensation practices. It identifies specific features of a firm's corporate governance and of remuneration consultants that can reduce agency costs that are incurred by shareholders as a result of opportunistic managerial behaviour. These features include the independence of the board chairman and directors, the independence of the remuneration committee, and the independence of the remuneration consultants used.

1.5 Structure of the Thesis

This chapter has presented the overall thesis objectives based on the existing theoretical perspectives regarding the issues of governance conflict and executive compensation in modern firms. The chapter has discussed the background and rationale for the study, highlighted the motivations and specified the research question. Finally the contributions of this thesis have been outlined. The remainder of this thesis is organised as follows. Chapter Two presents a brief account of the similarities and differences between the existing theoretical frameworks that explain the phenomena of corporate governance, ownership structure, remuneration consultants and CEO compensation. This chapter illustrates in detail the most common theoretical frameworks that

theorists and researchers have employed to explain and analyse the association between CEO compensation and both corporate governance and remuneration consultants' characteristics, such as agency, stewardship, optimal contracting and managerial power or rent extraction perspectives. The detailed review and discussion of the related theoretical explanation will provide a solid theoretical background for building the research hypotheses and interpreting the findings.

The previous literature that investigates issues regarding the relationship between CEO compensation and both corporate governance and remuneration consultants is reviewed and discussed in the third chapter. This chapter provides a critical review of the various corporate governance attributes and the remuneration consultants' characteristics. The review of each category of attributes ends with an identification of the gaps in the literature and proposed suggestions for bridging these gaps. The fourth chapter highlights the methodological frameworks that are employed in this thesis. The measurements of the study's dependent variable (i.e. CEO compensation variables) are demonstrated. A theoretical and empirical discussion of the relationship between each explanatory variable and CEO compensation is provided and is followed by the research hypotheses. This methodology chapter also reveals the operationalisation of independent variables together with a detailed description of the data sources the sample selection processes. Finally, the analytical procedures for each empirical model are presented and the choice of statistical estimation methods is justified.

Chapters Five and Six present and discuss the findings of the relationship between CEO compensation and corporate governance and remuneration consultants' characteristics respectively. Each chapter starts with descriptive statistics and correlation analysis; this is followed by the presentation of the results of the tested models and the inferences drawn from tests of the hypotheses. The findings are compared with previous study findings, and differences, if any, are explained and, if possible, justified. Further checks and analyses are made at the end of each chapter to check the robustness of the results to alternative specifications and the sensitivity of the findings to different estimation and measuring methods. This thesis ends with the seventh chapter that presents a summary of the thesis and draws conclusions for the research and the implications of the findings. Furthermore, this chapter outlines the study's potential limitations and provides recommendations for researchers for future research. Finally, based on the thesis findings, this chapter highlights some recommendations for practitioners, shareholders and regulators, which may enhance corporate governance and compensation practices in UK firms.

Chapter Two

Theoretical Survey

2.1 Introduction

The previous chapters have highlighted the subject matter of this study; namely, CEO compensation and its relationship to corporate governance mechanisms and remuneration consultants' characteristics. This includes specifying the research question, the main problem, the motivation for doing the research and the potential contribution. However, it is crucial to determine a theoretical base and framework for this study since it is also a vital tool for developing testable hypotheses. This will be demonstrated in this chapter.

This chapter aims at developing and discussing the theoretical background of the relationships between corporate governance mechanisms, the effect of role played by remuneration consultants and CEO compensation. In general, there is no agreed theoretical explanation among theorists and academics with regard to these relationships. A review of the literature shows that four main theoretical frameworks have been used to explain and analyse the correlations between these elements and these have been the subject of earlier empirical studies; namely, agency theory, the managerial power perspective, the optimal contracting perspective, and stewardship theory. Although this set of theories is not comprehensive, they are prominent and well-known in their respective fields. Therefore, this chapter will review these four theories to build the research hypotheses and to theoretically explain the empirical findings. Moreover, discussing this combination of perspectives will provide a clear picture of their ability and applicability to answer the research questions.

2.2 Agency Theory

Generally, the recent directions by regulators, academics and practitioners in terms of corporate governance and executive compensation have been influenced by the positive agency perspective, where the relationship between the agent (management) and the principal (owners) in large corporations is identified as a conflict of interests between the two groups. The principal provides the capital to the firm, while the agent supplies the labour and makes efforts to increase the firm's value as the decision maker through the provision of unobservable information to the principal. This separation of ownership from management provides the context for the function of agency theory. Western firms (British, American, etc.) have widely dispersed ownership whereby shareholders are not normally involved in running their corporations.

The distinction between ownership and control leads to a potential conflict of interest between managers and owners, which results in extra cost being incurred by the owners to resolve this conflict (Eisenhardt, 1989). Agency theorists assume that the agent is motivated by his own personal benefits and seeks to increase his wealth rather than maximising the firm's value. In line with this perspective, the agency problem arises when there is conflict of interest between the agent and the principal, and when it is difficult for the latter to monitor the actions of the former (Eisenhardt, 1989).Therefore, the most important basis of agency theory is to resolve the agency problem by ensuring that the agent works to maximise the shareholders' wealth along with his own benefits.

One of the hypotheses of this theory is that the information asymmetry between the agent and the principal results in incurring agency costs by both parties. The general classic example of the agency problem is the existence of information asymmetry between the owners and management. In terms of this perspective, shareholders can mitigate this agency problem and curtail the divergence from their interests by incurring some monitoring costs (Jensen and Meckling, 1976).

According to Jensen and Meckling (1976), the agency costs include monitoring cost, bonding cost and residual losses. Monitoring costs can be referred to as the costs that are incurred by the principals in their efforts to monitor and incentivise the agent to perform his duties in the best interest of the principal. Bonding costs can be financial or non-financial costs of putting systems or structures in place that would make managers act in the best interests of shareholders or compensate them accordingly if they do not (Jensen and Meckling, 1976). Finally, residual loss is the loss that happens because of the inconsistency of the decisions that would promote the self-interest of the principal and that of the agent, despite monitoring and bonding activities. In other words, it is the value of profit lost due to the contract's full enforcement costs exceeding its gains (Fama and Jensen, 1983).

The moral hazard problem, proposed by Jensen and Meckling (1976), exists when the agent may not make the required efforts in the best interest of the principal. Since shareholders might not have sufficient information, they need information to monitor the effort level and to evaluate it in order to measure it correctly. According to previous studies, the sources of such problems are related, for example, to management investment decisions – under-investment or over-investment, free cash flow, earning retention, shirking – that diverge from the positive net present value rule (Jensen, 1986, 1993; Shleifer and Vishny, 1986; Jensen and Murphy, 1990; Dhumale, 1998).

The importance of controlling the agency problem arises when the agent's decisions are not affected by his wealth in the organisation as a major shareholder and thus is not a major residual claimant

(Fama and Jensen, 1983). The divergence between the interests of the principal, as the residual claimant, and the agent's decisions appears in the absence of effective corporate governance mechanisms. From the agency theory approach, we can recognise the primary purpose of corporate governance which is to provide an assurance to the principal that the agent will aim to accomplish results in the best interest of owners (Shleifer and Vishny, 1997).

Furthermore, in order to mitigate agency problems and thus limit agency costs, firms need to create an internal system to effectively separate management decisions from control decisions (Fama and Jensen, 1983). Such a system would control and monitor the management and protect shareholders' interests against any opportunistic managerial behaviour. Corporate governance is assumed to undertake this role and corporate governance mechanisms are supposed to constrain the opportunistic managerial behaviour (Fama, 1980; Fama and Jensen, 1983b; Williamson, 1988; and Shilefer and Vishny, 1986), which eventually can reduce agency costs (McKnight and Weir, 2009).

Demsetz and Lehn (1985) assume that the internal and external corporate governance mechanisms are designed to reduce agency problems by aligning the agent-principal interests. Also they argue that the main purpose of corporate governance is not only to improve the firm's performance but to resolve agency problems by supervising the management actions and activities. Thus, theoretically, corporate governance mechanisms are supposed to be able to reduce agency costs and protect shareholders' wealth by monitoring management behaviour and therefore aligning the interests of managers with those of shareholders.

The governance mechanisms that are used in bringing the interests of the two parties together are: (1) an effective board and well-organised subcommittees; (2) well-designed remuneration arrangements that provide the incentive to the agent to act in the best interests of the shareholders; (3) concentrated ownership that monitors and disciplines top management; and (4) an effective outside mechanism by the market of corporate governance that works when the internal control of self-interested management is insufficient (Walsh and Seward, 1990; Daily et al., 2003; Clarke, 2007).

In line with this standpoint, reform actions (e.g. the UK Corporate Governance Code, 2003) suggest some effective internal governance structures to control firms include boards of directors that are comprised of a majority of non-executive independent directors, independent subcommittees that are comprised entirely of independent directors, and an independent chairman. This direction by governments and regulatory bodies supports the view of the agency perspective that governance mechanisms are more important in monitoring management than other external alternatives. Mallin

(2007) discusses the theories of corporate governance and suggests that the agency perspective is the most suitable approach as it gives a favourable explanation for the UK corporate governance codes.

As the agent's actions and decisions are unobservable, the principal tries to motivate the agent to take actions that are in the best interests of the principal by designing the agent's compensation arrangements in such a way that make the agent's rewards contingent on the firm's performance. Mainly, agency theory argues that the only way to protect the interests of shareholders is by creating strong and relevant internal control structures along with "…establishing appropriate incentive schemes for the managers" (Jensen and Meckling, 1976, p.308), as mechanisms to reduce agency loss (Eisenhardt, 1989; Donaldson and Davis, 1991). Therefore, in terms of this perspective, the main explicit objective of managerial compensation is to align the interests of top management with those of shareholders by creating a financial incentive to guarantee that executives will perform their duties in the best interests of shareholders and will not take any actions that would harm the firm's value and thus their own wealth.

As a result, the importance of compensation contracts comes from their ability to mitigate the agency and moral hazard problems by realigning the agent's incentives with the principal's goals. Therefore, the success of these remuneration arrangements can be evaluated by the extent of awarding managers for success (Jensen and Murphy, 1990; Murphy, 1999).

A survey of literature shows that the board of directors, the remuneration committee, compensation arrangements and ownership structure have been found to play a significant role in improving the firm's performance and aligning the interests of the agent and the principal. The literature on the board, as a governance team, reports on issues such as board size, board independence, and the separation of CEO and chair positions with the aim of improving the effectiveness of the overall degree of oversight (Lambert et al., 1993; Yermack, 1996; Core et al., 1999; Ozkan, 2007).

Therefore, strong governance structure, through mechanisms such as boards of directors, subcommittees and external remuneration consultants, enables owners to closely monitor management behaviour and to mitigate any opportunistic managerial behaviour. In contrast, weak corporate governance may encourage managers to maximise their own benefits at the expense of shareholders, by exerting influence over the board of directors and the pay-setting institution (i.e. the remuneration committee) to increase their compensation.

Thus, under this perspective and after controlling for other managerial compensation determinants, higher levels of fixed and total compensation may be indicative of weak corporate governance and

hence the existence of an agency problem. However, enhancing corporate governance should result in lower levels of managerial compensation and higher sensitivity of pay-performance. Taking into consideration these agency assumptions, explanatory variables will be identified with the aim of determining the correlation between corporate governance, ownership, remuneration consultant characteristics and CEO compensation.

Finally, in order to theoretically discuss any issue related to managerial compensation as an instrument that aims at maximising shareholders' value, and its role in aligning the interests of managers with those of shareholders, the agency problem must be used as the primary background for the discussion (Bebchuk and Fried, 2003). From this standpoint, two different approaches are used to explain the linkage between the agency problem and managerial compensation, namely the optimal contracting and managerial power perspectives. These two approaches should not be considered as new theories, but rather as extensions of the classic agency theory model (Bebchuk et al. 2002; Voulgaris et al. 2010).

2.2.1 Optimal Contracting Perspective vs. Managerial Power Perspective

A survey of the literature demonstrates that the academic research on executive compensation has been dominated by the optimal contracting and managerial power approaches. Optimal contracting approach assumes that the board of directors, the pay-setting institution and the use of independent remuneration consultants design the managerial compensation package mainly to reduce the agency costs (e.g. contracting costs, monitoring costs, etc.) between the principal and the agent. Therefore, the board of directors under this perspective is assumed to set up the executive compensation scheme in such a way as to maximise the principal value through minimising the agency costs.

On the other hand, the managerial power approach suggests that remuneration contracts are influenced by management since board of directors and pay-setting institutions are controlled by the managers. In other words, this approach assumes that boards have less control over managerial compensation, because executives have the power to determine the level and the structure of their own compensation and take advantage of this power to extract rent.

Although the optimal contracting perspective is different from the managerial power approach, the latter cannot be taken as a complete substitute for the former. Both approaches can be used to explain the practice of executive compensation contracts theoretically (Bebchuk et al., 2002). For example, the managerial power perspective can explain the degree of deviation in executive compensation arrangements from those supposed by optimal contracting approach. Here, a

comparison between the two approaches is conducted to find out the scope of each approach in explaining the features of the CEO compensation landscape.

2.2.1.1 Optimal Contracting Perspective

Although there is no perfect contract which would correctly align the agent-principal interests, the optimal contracting perspective aims at minimising the agency costs as much as possible and uses executive compensation arrangements as a tool to achieve this purpose. In order to protect and maximise shareholders' value, the board of directors along with other governance mechanisms tries to attract and retain talented managers and motivate them to make sufficient attempts and to take actions in the best interest of the shareholders through establishing incentive compensation schemes for them. Therefore, optimal contracting theorists argue that, in setting optimal managerial compensation contracts, the pay-setting institution should take into account how to (1) reduce the overall contracting costs, (2) incentivise managers to use their decisions to maximise the shareholders' wealth, and (3) retain talented executives (Jensen and Murphy, 1990; Bebchuk et al., 2002).

Managing large firms requires talented CEOs with sufficient skills and experience. All managerial decisions which would enhance the firm performance need executives with high quality human capital attributes. Such executives need special treatment to attract them to the firm and to retain them. Financial motivations are not the only element for so doing, but they may be the most important ones. Bebchuk et al. (2002) argued that, in order to attract or retain a CEO, the firm should give him/her a compensation contract that meets or exceeds the CEO's opportunity cost "reservation cost", which is a limitation of his/her compensation as a risk-averse CEO.

Incentivising the CEO to manage well has two main challenges. Firstly, firms have to financially encourage CEOs to expand their efforts to be involved in more risky activities to enhance the shareholders' value. That is, unlike shareholders, executives are believed to be risk-averse and might have a motivation to work less than is optimal for shareholders who usually have well-diversified portfolios and have the desire to engage in more high-risk business strategies. Secondly, CEOs might take actions that increase their own benefits at the expense of shareholders (i.e. use the firm's assets for their personal use). Thus, executive compensation is assumed to be an effective device for attracting, retaining and motivating managers to perform their duties in the best interests of the shareholders.

The executive's opportunity cost or reservation value reflects the lowest pay package that a firm offers to retain or motivate managers. However, firms usually tend to compensate manager much more than this reservation value in order to encourage them to maximise the firm's value. According

to Bebchuk et al. (2002), firms must keep giving value to their managers until "…the incremental cost of doing so outweighs the incremental benefit of the incentives produced" (p. 784). Therefore, in order to increase shareholders' value, the pay-setting institution, in designing the company's managerial compensation, will take into consideration alternative pay structures, both in terms of their cost and their incentive benefits to the firm.

Under this perspective, four parties usually participate in determining, designing, supervising and approving the level and structure of executive compensation in order to make it optimal for shareholders. Firstly, the board of directors which acts on behalf of the shareholders and selects executive compensation contracts that maximise the firm's value. Secondly, the market which acts as a supervisor and limits managers' ability to manipulate their compensation package and forces them to adopt compensation contracts that serve the shareholders' interests. Thirdly, shareholders themselves who have the right to reject or approve any remuneration arrangements, which forces managers to select packages that seem to be convincing and which aim at maximising the shareholders' wealth (Bebchuk et al., 2002). Finally, there is the use of an independent professional remuneration consultant. Under the optimal contracting perspective, appropriate executive compensation arrangements should aim at aligning the interests of risk-averse managers and with those of shareholders. However, determining such an arrangement is a sophisticated process that needs a great deal of information, expertise and knowledge. Therefore, it is common practice on the part of firms and pay-setting institutions to receive advice from professional consultants to assist in this process. Consequently, the use of remuneration consultants is expected to help in setting an optimal managerial compensation contract that leads to greater interest alignment and avoids costly mistakes through using a number of instruments and their expertise and knowledge of market remuneration practices (Voulgaris et al. 2010).

However, although the optimal contracting perspective seems to explain a good deal of the role of corporate governance in using managerial compensation to enhance the firm's performance, this approach suffers from some limitations that may make it insufficient for us to rely merely on this approach to explain the phenomenon. For example, the board of directors is responsible for producing compensation contracts that are optimal for shareholders and are supposed to exclusively serve shareholders' interests in this function through setting challenging managerial compensation arrangements. However, due to several factors such as management power over director appointments or reappointments, board and social dynamics, self-serving cognitive dissonance by outside CEOs sitting on the board, and information disparities (Fama and Jensen, 1983; Main et al., 1995; Crystal, 1989; Eisenberg, 1999; Bebchuk et al., 2002), boards of directors may have less power

and control over determining the level and structure of executive compensation. This therefore deviates from arrangements that are expected under this approach to lead to optimal contracting.

As there is uncertainty that directors can represent shareholders well, especially in designing managerial compensation, the market is believed to be another mechanism that may indirectly play a role in this process. Fischel (1982) and Fama (1980) argued that markets of corporate governance, executive labour, and capital can sufficiently contribute in aligning the principal-agent interests.

The market of corporate governance is assumed to be a strong device in aligning the interests of executives with those of shareholders. Governments and regulatory bodies impose regulations to organise executive compensation practices and to place some constraints on excessive increases in compensation. The market for managerial labour also plays a significant role in aligning the interests of managers with those of shareholders through a number of mechanisms such as executives' compensation packages and their shareholdings and the possibilities of being hired for a better position by another firm, promoted, or even dismissed. Most managers take these market managerial labour mechanisms into consideration before granting themselves high-levels of compensation. Also, the market for capital might force executives to demonstrate a convincing pay package in order to facilitate the firm's access to equity capital and to reduce the cost of additional capital. However, Bebchuk et al. (2002) argue that it looks to be highly unlikely that most of these mechanisms would prevent managers from awarding themselves a pay raise.

As discussed above, boards of directors and market mechanisms might not produce compensation arrangements that are suggested by optimal contracting. Thus, under corporate law, shareholders have the right to approve or reject any executive compensation proposals that are not optimal from their point of view. Theoretically, in order to ensure optimal contracting, shareholders are supposed to have the power to block or modify what they do not think to be optimal through their voting rights on remuneration committee reports and proposals. Derivative litigation can be used by shareholders to stand against any compensation arrangements that illustrate opportunistic managerial behaviour and which do not aim to maximise the firm's value. However, in practical terms, using the voting power against any proposal that is produced by the board of directors would imply some aspects of corruption or cronyism inside the firm, which would harm the firm's reputation and thus the shareholders' value. Therefore, it is rare that shareholders use this right due to the harmful potential consequences on their wealth of such an action.

2.2.1.2 Managerial Power Perspective

The managerial power approach argues that executives have an influence over internal governance and use this power to maximise their utilities at the expense of shareholders (Zald, 1969; Pfeffer,

1981; Finkelstein, 1992; Shleifer and Vishny, 1997; Williamson, 1964; Bebchuk et al., 2002). Therefore, consistent with this perspective, managerial compensation is seen as a part of the agency problem rather than as a tool that is used to alleviate these problems. In other words, the managers' influence over the internal and external governance mechanisms (i.e. board of directors, remuneration committee, remuneration consultants) and thus their own compensation, leads to incurring extra costs for shareholders, beyond their compensation excess, by affecting the managers' motivation to maximise the shareholders' value.

This perspective tries to explain the relationship between the agent and the principal through the extent of the agent's power over the pay-setting process. Unlike the optimal contracting perspective, the managerial power theorists believe that executive compensation may not help to mitigate the agency problems between managers and shareholders. Rather, some aspects of managerial compensation arrangements are supposed to increase the agency problems according to the degree of power that managers have (Bebchuk and Fried, 2003).

According to some firm and governance characteristics, such as board of directors, subcommittees and ownership structure, executives do more or less have influence over the level and structure of their own compensation. Managers have the ability to increase their compensation to an excessive extent because of the power that comes from their position and relationships. The level of rent which managers extract is the extra compensation that can be gained by them over what they would receive under an optimal contract. This approach assumes that there is an association between managerial power and rent and thus the higher the rent extraction is, the greater is the manager's power (Bebchuk et al., 2002).

Managerial power can originate from different sources. One of the most important sources that managers can generate power from is the equity holdings that are owned by them. Firms with a high percentage of shares owned by external shareholders (e.g. blockholders, institutions, individuals, governments, etc.) suffer less from the managers' power over the internal governance structure. That is, firms with such an ownership structure usually have a board of directors structurally capable of providing strong monitoring through the presence of representatives of those external parties, which eventually constrains the managers' ability to influence their compensation. In contrast, firms with higher proportions of equity holdings owned by executives have greater managerial influence on the internal control decisions, including appointing and/or reappointing directors and determining the level and structure of executive compensation (Finkelstein and Hambrick, 1989; Finkelstein, 1992).

Another important source of managerial power is the characteristics and composition of the board of directors. A few board attributes participate in increasing or decreasing the managers' influence over the board and its outcomes. For instance, a board of directors that is chaired by the CEO of the firm is assumed under this approach to suffer from managerial influence over the board's decisions, while the separation of these positions so that they involve two individuals, will increase the board's independence in making control decisions and setting executive compensation.

Moreover, the composition of boards has a strong impact on the board's independence and the degree of managerial power. Under this perspective, the proportion of inside directors, i.e. executive directors, is an increasing function of the level of managerial power over the board of directors. That is, internal directors are more likely to be loyal to their CEO and less likely to take a position against any proposals that are favoured by him/her (Pfeffer, 1981). In contrast, CEOs of firms with boards of directors that are dominated by external directors have less power and influence over the control decisions and thus the level and composition of their compensation. Independent directors are assumed to represent and work on behalf of shareholders since they, theoretically, are supposed to have no relationships with the management that may affect their monitoring function (Lambert et al., 1993). However, independent directors themselves might be under the influence of the CEO and act in his/her favour at the expense of the shareholders. The CEO may exert influence over the external directors through a number of ways, such as the nomination process (Hermalin and Weisbach, 1998), cronyism, setting directors' pay (Brick et al., 2006) and other hidden relationships.

Consistently, Bebchuk et al. (2002) argued that remuneration consultants may assist managers to extract extra rent and camouflage the executive's excessive compensation. That is, remuneration consultants, who are considered by shareholders and outsiders to be independent of management, may help management by offering legitimacy to compensation contracts that are in favour of managers rather than shareholders, i.e. greater levels of compensation and lower levels of pay-performance relationships (Voulgaris et al., 2010).

It is suggested that there are two main reasons for this harmful impact of remuneration consultants on compensation governance quality (Voulgaris et al., 2010). Firstly, as discussed above, CEOs often have friendly relationships with directors on boards and subcommittees, which increases managerial power over the internal governance structure. Therefore, CEOs may exploit their power and try to affect the level and structure of their compensation package. Secondly, remuneration consultants become affected by this internal atmosphere and then try to satisfy the CEO's needs rather than those of the shareholders, since they recognise the managerial influence over the decision to

appoint or reappoint them in future. Accordingly, the use of remuneration consultants is predicted to increase the agency problem and costs as a result of managerial influence over the consultant.

Furthermore, CEO tenure might be considered as a measure of managerial power (Kalyta and Magnan, 2008). Unlike recently appointed CEOs, a CEO who has served for a long time in the firm is assumed to have obtained loyalty and developed friendships with directors who comprise the board of directors and the pay-setting institution. Thus, CEOs with longer tenure are more likely to have influence over the level and structure of his/her own compensation.

Nevertheless, managerial power theorists do not suggest that there are no constraints on managers' ability to inflate their compensation and extract rent. For example, in some cases, although the CEO has the power to elect or reappoint directors, they might refuse to pass executive compensation arrangements that have deviated from what would be expected to be optimal. Bebchuk et al. (2002) argue that, for instance, the amount of outrage which executive pay packages would create is a crucial element that affects and limits the CEO's ability to maximise their pay. That is, a CEO's remuneration arrangement that was extreme would exceed what can be offered under optimal contracting and may affect the board's approval of such an arrangement, even if the CEO exerted influence over the board. Thus, the CEO's ability to get the board's approval of his compensation arrangements can be affected by such features as outrage.

Given the discussion above, CEO compensation under this approach is not only determined by economic and human capital determinants, but also reflects the level or the extent of managerial or CEO power over the board of directors and the pay-setting institution. Thus, it is suggested that CEOs with greater power not only receive higher pay, but also receive a compensation structure that is favourable to them (e.g. more fixed and less performance-related compensation).

2.3 Stewardship Theory

In contrast to the agency theory, stewardship theory argues that there are non-financial or intangible motivations that could alleviate opportunistic managerial behaviour. The CEO under this perspective is assumed to inherently have the motivation to maximise the firm's value, as the leader or the steward of the principals' assets (Donaldson and Davis, 1991). Therefore, this approach suggests that there are no inherent problems of managerial motivation. Accordingly, this means of explaining the relationship between managers and owners looks on the bright side of "good managers", and supposes that the CEO believes that his/her benefits through self-serving actions are much less than his/her utilities obtained from pro-organisational behaviour (Davis et al., 1997).

Given the inherent existence of managerial motivation to maximise the firm's value, there is the question of what factors may help or encourage the CEO to achieve good firm performance. The stewardship theorists argue that achieving good performance is dependent on the extent that the internal structure can help the CEO to perform his/her duties and whether the organisational structure assists the CEO in devising and implementing strategies leading to better firm performance (Donaldson, 1985). Thus, in order to achieve this goal, this theoretical perspective suggests that the internal structure should provide consistent and clear decisions that authorise and empower the CEO to achieve the organisational objectives (Donaldson and Davis, 1991).

Stewardship theory assumes that some features of the internal governance structure could affect the ability of the steward to perform his/her duties and, also, can be counterproductive due to affecting his/her incentives (Argyris, 1964). Hence, the governance structure should give the CEO complete authority over the firm's activities (i.e. management and control decisions), in order to maximise the shareholders' value. For example, the CEO-chairman duality contributes to increasing the power and ability of the steward to maximise the organisation's value and thus his, and the owners', benefits without fear of being countermanded by an external chairman (Donaldson and Davis, 1991; Davis et al., 1997). Under this perspective, the firm enjoys benefits from this unity of command and control, and thus shareholders will enjoy superior returns, better than what they would get with the separation of these positions.

As the CEO's behaviour is believed to be collective rather than individualistic under this perspective, stewardship theory emphasises the importance of organisational structures that play authorising, facilitating, and empowering roles rather than controlling and monitoring ones (Albrecht et al., 2004). Therefore, this approach rejects the hypothesis that there is a conflict of interest between the principal and the agent, and hence neglects the need to curtail the agents' opportunistic behaviour by monitoring and/or incentivising him/her since she/he is assumed to be reliable and trustworthy (Donaldson, 1990; Donaldson & Davis, 1991; Davis et al., 1997).

Stewardship theorists argue that this way of explaining the relationship between shareholders and managers leads to additional benefits. Besides the benefits that the firm obtains from the directors' help in terms of management decisions as experts in business, which are likely to contribute to increasing the shareholders' wealth, other benefits come through reducing the monitoring costs that the shareholders usually incur to supervise the managerial activities. Consequently, from this perspective the board of directors is considered as an instrument which assists the CEO, rather than as a monitoring mechanism.

Therefore, there is less need to fill the board of directors with external or independent directors since the insider managers sit on the board and make suggestions to help make effective decisions which maximise the shareholders' value. In line with this argument, stewardship theory suggests that boards of directors that are dominated by executive or insider directors are more desirable, as they can supply their firm with more efficient decisions and consultations due to their commitment to the firm, their business expertise and their ready access to information. In contrast, boards with a majority of external or non-executive directors might have an inverse impact on the process and timing of making and taking decisions. However, there is a huge resistance to the stewardship theory from those who believe that the domination of boards by independent directors plays a significant role in the running of firms. For example, beside a number of theoretical and empirical works, several institutions and regulatory bodies encourage firms to have a majority of non-executive independent directors on their board of directors (e.g the UK Corporate Governance Code and the UK Council of Institutional Investors).

Moreover, while agency theory considers financial compensation to be the primary means of motivating the agent, stewardship theorists do not give this matter sufficient attention, and point to these incentive instruments as survival needs. Additionally, they assume that stewards' personal needs can be met only after achieving the organisational objectives (Davis et al., 1997). Therefore, it might be difficult to merely rely on this perspective to explain the relationship between executive compensation and governance mechanisms due to the insignificance of executive compensation as part of this theory, and the difficulty of identifying the meaning of "personal needs" in the context of this theory.

2.4 Summary

A survey of the literature demonstrates that agency theory is the most popular theoretical perspective in this area and shows that it has received much attention from researchers exploring issues that relate to corporate governance and executive compensation. As a result, governments and regulatory bodies have been influenced by this perspective in developing their regulations, codes and principles. That is, agency theory is legally assumed to provide the most comprehensive theoretical explanation of the relationship between management and shareholders, along with proposed solutions for the agency problem. It also provides a powerful tool for providing an insight into suggestions for corporate governance mechanisms and executive compensation arrangements, and how managers might be compensated with performance based compensation that would reduce the agency costs and maximise shareholder wealth. Thus, this approach is taken as the main base in developing and building any new corporate governance rules or principles in the UK context.

However, in recent years, researchers have paid attention to other perspectives in studying issues that relate to corporate governance and managerial compensation. Bebchuk and Fried (2003) argued that the agency problem should be taken as the main background for the discussion. Accordingly, two important perspectives are used to describe the association between the agency problem and executive compensation. These perspectives are optimal contracting and managerial power.

The optimal contracting approach suggests that the internal governance mechanisms (e.g. the board of directors and its subcommittees) will set the executive compensation in a way that motivates executive managers to enhance the firm's performance and maximise the shareholders' value (Jensen and Murphy, 1990). Empirically, some previous studies have provided evidence in favour of this perspective, suggesting that the board of directors and the remuneration committee design the compensation arrangement in the best interests of shareholders (e.g. Newman and Mozes, 1999; Conyon and Peck, 1998; Anderson and Bizjak, 2003).

By contrast, the managerial power or rent extraction theory implies that managers have power over internal control decisions and exploit this power to increase their benefits at the expense of shareholders (Zald, 1969; Pfeffer, 1981; Finkelstein, 1992; Shleifer and Vishny, 1997). Unlike the optimal contracting theory, managerial compensation is seen as a part of the agency problem rather than as a tool used to mitigate these problems under this perspective. Empirical evidence supports this viewpoint and it has been found that some aspects of compensation contracts appear to reflect the opportunistic behaviour and self-interested behaviour of the managers rather than incentives to increase the firm's value (e.g. Blanchard et al., 1994; Yermack, 1997; Bertrand and Sendhil, 2001).

Even though there are differences between the optimal contracting and the managerial power approach, both approaches can be taken to theoretically interpret the practice of managerial compensation arrangements and thus the managerial power approach cannot be used as a complete substitution for the optimal contracting one (Bebchuk et al., 2002). That is, the managerial power perspective can justify the level of deviation in executive pay contracts from those suggested by the optimal contracting perspective.

On the other hand, stewardship theory emphasises the collective behaviour of managers and rejects managerial individualistic and opportunistic behaviour. This optimistic standpoint assumes that managers behave as stewards in running their firms and in investing shareholders assets. Unlike agency theory which neglects the role of non-financial motivation in incentivising the agent to maximise the firm's value, the stewardship theorists argue that managers are inherently motivated

by non-financial motives to enhance the firm's performance. Therefore, under this approach, the internal governance structure should empower and authorise management to achieve the organisational objectives. It is also supposed to provide advising services rather than having monitoring and controlling functions.

Finally, human capital theory argues that executives can be rewarded for their personal human capital values obtained as a result of experience, education, knowledge and skills. Under this perspective, the amount the executive is paid depends on his/her marginal productivity (Lambert et al., 1993) which reflects his/her own investments in human capital and his/her value in the executive labour market. Empirical research has used some human capital characteristics such as tenure and education level as measures of human capital value. However, theorists argue that human capital attributes provide little evidence in interpreting and determining executive compensation (e.g. Finkelstein and Hambrick, 1988; Leonard, 1990).

In conclusion, a brief review of the relevant perspectives is made above. The agency theory is shown to afford a superior position in interpreting and suggesting solutions to the relationship between management and shareholders. Therefore, this research will use this theory as the basic theoretical background to explain the relationship between the governance mechanisms, remuneration consultants and CEO compensation, along with utilising other perspectives, i.e. optimal contracting, managerial power and stewardship theories, as alternative or complementary perspectives in building the hypotheses and/or interpreting the results.

Chapter Three

Survey of Empirical Studies

3.1 Introduction

This chapter focuses on reviewing and discussing the previous studies that have investigated issues relating to executive compensation, corporate governance and remuneration consultants. When different or conflicting findings are found, limitations and methodological differences will be discussed. Reviewing the related literature will give us a solid background to allow us to identify the gaps in the literature and provide proposed suggestions for filling them. The study's explanatory variables are classified into four categories: board of directors' structure, remuneration committee composition, ownership structure and the role and effect of remuneration consultants. Every group is discussed in turn and the chapter will end with an overall summary of the literature review, together with a table that contains a summary of the key studies which have investigated the relationship between CEO compensation, corporate governance and remuneration consultants.

Generally, previous studies that paid attention to the effect of remuneration consultants largely originated from the UK and the US. This is especially so in the recent empirical works, where the disclosure requirements with regard to remuneration consultants' information have become mandatory as a result of the importance and the increased usage of remuneration consultants on the part of firms (Alagla et al. 2011b). The UK took the first step in requiring firms to disclose information about the use of remuneration consultants in 2003. Later, in 2005 and 2007, Canadian and US firms respectively, were required to disclose this information. Due to the poor disclosure in the pre-disclosure period, researchers were unable to investigate the role of remuneration consultants empirically using statistical data. Mainly, pre-disclosure studies have discussed theoretically some issues related to remuneration consultants, but not as a main objective of these studies (e.g. William, 1985; Tosi and Gomez-Mejia, 1989; Crystal, 1991; Wade et al., 1997; Ezzamel and Watson, 1998; Bebchuk and Fried, 2004).

However, after these regulatory changes, researchers have taken advantage of the improvement in the disclosure rules and data availability in these countries in order to examine the role and effect of remuneration consultants on executive compensation empirically (Alagla et al. 2011b). Consequently, a number of papers have been published recently. The data availability seems to have increased the researchers' curiosity with regard to exploring this undiscovered world of the remuneration consultant since it is note that most of the related studies have been published in the

period 2009- to 2011. Post-disclosure studies have basically focused on determining the consultants' independence status and investigating the impact of consultant independence on the level of executive compensation; a few have examined its effect on the structure of pay packages. Therefore, due to the methodological differences of these studies, the second section of this chapter is divided into two main categories of literature; namely, pre-disclosure studies and post-disclosure studies.

3.2 Board of Directors Composition

3.2.1 Board Size

Previous studies have investigated the impact of board size on monitoring managers, setting their compensation and enhancing the firm's value. Board size is expected to play a role in terms of the quality of the board when it comes to supervising and monitoring the management of the company and thus affecting the quality of the internal control (Lipton and Lorsch, 1992; Jensen, 1993). While some researchers argue that smaller boards are more effective because the directors enjoy better communications and interactions between them (Yermack, 1996; Ozkan, 2007), others assume that larger boards are supposed to provide their firms with better monitoring as they generally have more time and experience than smaller boards (Monks and Minow, 1995).

In line with the latter argument, Klein (2002a) supports the move towards larger boards by arguing that the quality of work would be better if it is done by a great number of directors. However, in terms of executive compensation, most of the previous research has documented a positive relationship with board size (e.g. Yermack, 1996; Core et al., 1999; Ozkan, 2007), which indicates that larger boards lead to more agency problems.

Fahlenbrach (2009) used a large sample of 11,029 CEO-years observations during the period 1993-2004 to examine the effect of board quality and shareholders rights on CEO compensation and the pay-performance relationship. Utilising board size as a measure of board quality, he found that board size has a significant positive relationship with total CEO compensation. He also documented the fact that a larger board has a significant negative impact on the CEO pay-performance relationship, which gives strong support to the notion that larger boards play an inverse role in monitoring top management and weakens the internal governance structure.

Similarly, Ozkan (2007b) investigated the impact of board size on the structure of CEO compensation using a sample of 390 UK non-financial firms for the period 1999-2005. She found that the board size plays a significant role in increasing both cash and total CEO compensation. Moreover, she found the board size has an inverse impact on pay-performance sensitivity. Also, Ozkan (2007a) found the

same correlation between board size and the different CEO compensation components (i.e. salary, bonus, LTIPs, stock options) in a cross-sectional study. However, while previous studies show that there are many important control variables (e.g. CEO characteristics, economic determinants, firm risk, etc.) which play a significant role in determining the CEO compensation, the latter two studies used just two control variables (firm size and growth opportunities).

In addition, Core et al. (1999) examined the association between the effectiveness of the governance mechanisms and the reduction in managerial influence over the internal control structure. They found that board size is significantly and positively related to higher salary, cash, and the total compensation that was received by US CEOs. This is consistent with the interpretation that larger boards weaken internal governance and thus increase the CEO's power over his/her own utilities.

On the other hand, Basu et al. (2007) argued that larger Japanese boards are assumed to inversely affect the governance quality as they are unlikely to provide effective monitoring of managers. Thus, they imply that larger boards award their CEOs more cash compensation. However, they found little evidence that Japanese boards play a role in setting or determining CEO cash compensation. Also, Wang et al (2011) concluded similar findings using Chinese sample.

Other empirical studies have investigated the impact of board size on the effectiveness and the quality of internal governance and on shareholders' value. For example, Yermack (1996) examined the correlation between Tobin's Q, as a proxy for firm value, and the number of directors sitting on the board. Using a sample of US firms, he noted that the board size is negatively related to shareholder value. Also, De Andres et al. (2005) and Mak and Kusnadi (2005) found a similar correlation. However, Faccio and Lasfer (1999) found that firms with board sizes above the median of his sample enjoyed better firm performance. Other researchers found that board size plays a significant role in monitoring management by decreasing the level of earning manipulation (Bedard et al., 2004; Xie et al., 2003; Yu, 2008).

3.2.2 Board Independence

One of the measures of the board of directors' effectiveness that has been used in the previous literature is board independence. The assumption is that the board of directors should be comprised of a majority of outside or independent directors in order to protect shareholders' interest and resolve the agency problems by playing a monitoring role. Researchers consistently argue that independent directors have an indirect financial motivation to monitor top management. For example, their success in supervising managers, and thus enhancing firm's value, results in increasing the demand for their services in the directorship market (Fama and Jensen, 1983;

Weisbach, 1988), which indirectly leads to financial gains from other potential directorships in other firms.

Moreover, as these external directors often have directorships in several boards of directors, they are assumed to be experts in monitoring executives and supervising the firms' activities (Fama and Jensen, 1983). This argument has been supported by the findings of Coughlan and Schmidt (1985), and Hermalin and Weisbach (1988). Nevertheless, others suggest that external directors could negatively affect the internal governance when they have no interests in the firm's equity (Finkelstein and Hambrick, 1996), or have hidden relationships with managers (e.g. Core et al., 1999).

Earlier studies have extensively discussed the effect of the proportion of external or independent directors with regard to the internal governance structure and have arrived at mixed results. Core et al. (1999) examined the independence status of outside directors and investigated their impact on CEO compensation in a sample of 205 US firms. They classified the outside directors into two main categories (1) Gray directors, i.e. external directors who receive payments in excess of their board fees (e.g. by providing other services to the firm). (2) Interlocked directors, i.e. when the CEO or any of the firm's executives sit on the board of that external directors' firm. They found that the proportion of gray directors positively affects the CEO compensation. However, the percentage of interlocked directors on the board was not significantly related to the CEO's compensation. Finally, they found that the proportion of internal directors has a significant negative association with CEO compensation. Wade et al. (1990) also reported similar findings.

Ozkan (2007a) used the proportion of non-executive or outside directors as a proxy for board independence to examine its impact on CEO compensation. Using a sample of 414 UK firms in 2005, she found that firms with a greater proportion of non-executive directors on their boards awarded their CEOs more compensation, suggesting that non-executive directors in the UK play an inverse role in monitoring top management and setting challenging compensation arrangements. Also, Franks et al. (2001) found similar findings when they concluded that the UK outside directors behave as advisors and do not perform a monitoring function.

With regard to a sample of 303 US firms for the period 1982-1984, Lambert et al. (1993) hypothesised that executive compensation is an increasing function of managerial power and assumed that managerial power increases when the external directors are appointed by the CEO. Their results supported this hypothesis in that the relationship between the percentage of external directors who were appointed by the CEO and his compensation proved to be positive. However,

they found the proportion of all external directors was also positively related to CEO compensation. One potential limitation of this study is the evaluation of stock options. The researchers valued this component at 25% of their exercise price and claimed that the value would be in the same range as more complicated pricing models (e.g. the Black-Scholes model), while the range might be varied according to the inputs of any pricing model (e.g. price volatility, dividends yields, time to expiration, etc.).

Conyon and Peck (1998) investigated the impact of different governance characteristics, including the proportion of non-executive directors on the board, on the remuneration of a firm's highest-paid director. Using a sample of 100 UK firms in the period 1991-1994, they found little evidence that the proportion of non-executive directors plays a role in determining the level of executive compensation. On the other hand, Boyd (1994) hypothesised that the percentage of external directors on the board contributed to an improvement of the board's level of control, and thus decreases the CEO compensation. Inconsistent with his hypothesis, he found that this percentage is positively associated with CEO compensation. However, Finkelstein and Hambrick (1989), using panel data for a similar period, found this relation to be insignificant. Nevertheless, due to insufficient disclosure at that time, these studies excluded some important compensation components (i.e. long-term compensation) from the analysis, which may lead to an inaccurate interpretation and thus might limit the validity of their findings.

Mehran (1995) investigated the impact of several governance characteristics on the composition of managerial compensation (i.e. cash-and equity-based compensation). He argued that, unlike boards with a higher proportion of internal directors, boards that are dominated by external directors tend to award their CEOs less cash and more equity-based compensation. However, on a random sample of 153 manufacturing US companies for the period 1979-1980, he found that CEOs are compensated with more cash and less equity-based compensation in firms with boards which had higher proportions of external directors, which is an opposite result to his hypothesis. Johnston (2007) concluded similar results when he found that the number of non-executive directors on the board significantly and positively affects CEO salary in a sample of 220 UK non-financial firms. Moreover, Fahlenbrach (2009), using a sample of US firms for the period 1993-2004, supported these findings by noting that the proportion of internal directors has an inverse and significant impact on CEO total compensation.

Another recent study by Sapp (2008) examined the relationship between managerial compensation and some internal governance structures in 400 Canadian firms. They found that the proportion of independent directors has a significant negative association with the top five highest paid directors.

However, they found this correlation to be insignificant with CEO compensation, suggesting that these directors might have a stronger relationship with CEOs than with lower levels of top management.

However, Byrd and Cooperman (2010), working with a sample of 93 US financial firms for the year 2001, documented a significant inverse association between CEO compensation and the average number of other boards' external directors who sit on the board of directors under consideration, suggesting that non-executive directors monitor top management effectively. On the other hand, Mangel and Singh (1993) and Wang et al. (2011) found that US external directors have no impact on CEO cash compensation. Other studies have utilised samples from non-Anglo-Saxon countries to investigate the effect of board independence on managerial compensation. For example, Basu et al. (2007) found that the Japanese non-executive directors participate in resolving agency problems and contribute to monitoring top management. On a sample of 174 Japanese firms during 1992-1996, they found a significant and negative relationship between outside directors and CEO cash compensation. Also, Conyon and He (2011) document a positive impact of independent directors on compensation governance in China. However, Lee (2009) found that neither independent nor non-executive directors play a role in determining or designing CEO equity-based compensation in Singapore.

Other studies have investigated the role of board independence in mitigating agency problems by examining the impact of the proportion of independent directors on a firm's value. For instance, Rosenstein and Wyatt (1990) found a positive reaction in terms of the stock price of a company to the announcement of the appointment of a new outside director. This gives an indication that shareholders expect better internal governance and thus better performance in firms with outsider-dominated boards. Additionally, Weisbach (1988) found that non-executive directors are more likely to fire or replace poorly performing managers, which may improve the firm's performance. However, others found a negative association between the proportion of outside directors and firm performance (e.g. Agrawal and Knoeber, 1996; Weir and Liang, 1999; Bozec, 2005). On the other hand, other research found no relationship or little evidence between some measures of performance and board independence (e.g. Barnhart and Rosenstein, 1998; Baysinger and Hoskinsson, 1990; Hermalin and Weisbach, 1991; Yermack, 1996).

3.2.3 Role Duality
The existence of role duality happens when a CEO holds the position of chairman of the board. It is widely assumed that holding the two top positions in a firm by an individual will give him/her wider power to control business activities along with greater influence in making control decisions (Fama

and Jensen, 1983; Hambrick and Finkelstein, 1987; Harrison, Torres and Kukalis, 1988; Patton and Baker, 1987; Boyd, 1994). Therefore, directors in boards that are chaired by the CEO are expected to have less degree of power over the control decisions, which is assumed to negatively affect the internal governance (Morck et al., 1989). In contrast, boards with non-executive or independent chairmen are expected to enjoy a high quality of internal control by increasing the degree of monitoring, and decreasing the influence of executives over the control-decision makers, and thus curtailing opportunistic managerial behaviour (Weidenbaum, 1986).

However, others argue that role duality contributes to an increase in the power and the ability of the CEO to maximize the organisation's value and thus their and the owners' benefits without fear of being countermanded by an independent chairman (Donaldson and Davis, 1991; Davis et al., 1997), therefore, the interests of the CEO and benefits incentives are directed to the firm's value rather than to personal goals.

Conyon (1997) investigated the impact of role duality on the highest paid director's cash compensation using a sample of 213 UK firms for the period 1988-1993. He argued that a CEO who chairs the board of directors is given the chance to maximize his/her own benefits by influencing the level and the structure of their own compensation at the expense of shareholder value. However, the findings of his research do not support this hypothesis as he concluded that no relationship exists between role duality and managerial cash compensation. Moreover, Conyon and Peck (1998) found the same situation in another sample with a slightly different time period (1991-1994).

In the US, Core et al. (1999) using a similar sample size of US firms, found strong support for the notion that CEOs take advantage of their power if they chair the board by increasing their own wealth. They documented a significant positive relationship between role duality and CEO salary and total cash compensation. Consistently, Boyd (1994) found role duality negatively affects the board of directors' control when he examined the relationship between CEO cash compensation and board control. However, these studies argue that using CEO cash compensation is a relevant proxy for total compensation. Farmer (2008), however, implies that this measure does not reflect the size and the structure of total CEO compensation, since the determinants and the impact of each component differ from each other.

According to the findings in the US, Fahlenbrach (2009) predicted that the role duality weakens internal governance, and thus negatively affects the board quality in setting managerial compensation and enhancing the pay-performance relationship. Although he found that role duality

significantly increases CEO total compensation, he noted an enhancement by 37% in pay-performance sensitivity, which gives support to the substitution hypothesis.

Nevertheless, Talmor and Wallace (2000) investigated the impact of a composite board strength measure made up of several board characteristics, including CEO duality, on CEO total compensation and the proportion of CEO incentive compensation. They assumed that CEO influence over the directors is an increasing function if the CEO chairs the board, which results in less board strength in controlling the firm and in determining managerial compensation. In a large sample of 904 US firms for the period 1992-1997, he found that board strength has a significant and negative impact on CEO compensation. Also, in more recent studies in the US and China, Brick et al. (2006) and Wang et al. (2011)found strong evidence that CEOs who are chairmen are more entrenched and receive larger total compensation.

In terms of the impact of role duality and the strength of internal governance, and the impact on firm value, empirical studies have documented mixed findings. For example, Dalton et al. (1998) and Weir and Liang (1999) found that role duality plays no role in enhancing firm performance in the US and the UK respectively. Boyd (1995) concluded that firms with boards that were chaired by CEOs enjoy better performance. However, Callaghan et al. (2003) found that role duality is negatively related to firm performance. Moreover, while some studies found that role duality has a positive impact on earnings management (e.g. Klein, 2002b), other pieces of research found no such relationship (e.g. Peasnell et al., 2000a; Bedard et al., 2004; and Xie et al., 2003).

3.2.4 Non-executive Directors Pay

One of the important direct indicators of the strength of the internal governance structure is the level of pay that is received by external directors and the relationship between this level and that of managers. It is argued that the notion that outside directors aim to enhance their reputation as decision-makers is more believable when they receive smaller payments for their directorships (Fama and Jensen, 1983). Additionally, some researchers assume that high levels of external directors' fees are supposed to weaken their independence and thus internal control (e.g. Kosnik, 1990; Boyd, 1994).

On the other hand, others argue that the complexity in a firm's activities and the firm size could indirectly link CEOs' and directors' compensation. Also, as they are compensated by shareholders to perform their duties, well-compensated directors may act in the best interest of the firm in order to satisfy them (e.g. Brick et al., 2006). However, the empirical evidence on the impact of directors' compensation is sparse, especially in the UK, since I found no previous research has examined this relationship.

Brick et al. (2006) investigated the association between the compensation that is received by board directors and the CEO using a sample which is varied from 1163 and 1441 US firms for the period 1992-2001. They hypothesised that the collusion between external directors and executives will result in increasing their compensation at the expense of shareholders. They found that CEO compensation is positively and significantly related to the directors' compensation. Also, they concluded that this excess in both parties' compensation is correlated to poor firm performance, which supports their hypothesis that the directors and managers increase their own benefits at the expense of shareholders.

Furthermore, Boyd (1994) examines the impact of the level of directors' compensation on CEO cash compensation. Consistent with this theoretical and hypothetical direction, he predicted that directors' compensation will have an inverse effect with board control. After controlling for profitability and firm size, he noted a negative association between the level of directors' payments and board control in a sample of 193 US firms for the year 1980. This result also supports the notion that higher levels of compensation that are received by non-executive directors undermine their monitoring function.

Mangel and Singh (1993) analysed this relationship using a smaller sample (100 US firms) in 1988. They argued that the link between the directors' payments and CEO compensation implies some aspects of an exchange relationship or *"quid pro quo"* link between the two parties. However, their findings do not support this argument since they found that the directors' pay is not significantly associated with CEO cash compensation.

3.2.5 Chairman Independence

Generally, previous studies of corporate governance and executive compensation rely on the CEO-chairman duality as one of the proxies of board independence in making and taking control decisions. That is, the CEO may have more power to influence the board's decisions if he/she simultaneously chairs the board of directors. However, although this measurement might capture the level of the managerial power and the quality of the board of directors in monitoring management, it might not be sufficient proxy for the chairman's independence, since the chairman of the board may not considered being independent, even if he is not the CEO of the firm.

Therefore, this study employs a different measure to examine the role of a chairman's independence in setting CEO compensation. The UK Corporate Governance Code (2003) points out this issue and emphasises the importance of the independence status of the chairman. Provision (A.2.2) states that the chairman of the board of directors should, on appointment, satisfy the Code's independence criteria, which apply for non-executive directors to be considered as independent directors. Hence,

following the Code's recommendation, this study uses the independence status of the chairman on appointment as a proxy for his independence.

Habbash et al. (2010) is the only research that has applied this measure to investigate the effect of the chairman's independence on the quality of corporate governance. Using a sample of 471 UK non-financial firms for the years 2003 to 2006, they examined the impact of the chairman's independence on earning management. However, they found no relationship between the chairman's independence status and earning management, suggesting that the independence status of the chairman of the board of directors plays no role in enhancing the quality of the financial reporting, and thus the quality of internal governance.

More interestingly, however, they found this association to be negative and significant when they used the chairman's independence as measured according to the Code's NED independence criteria in the fiscal year, rather than on appointment, implying that an independent chairman plays an important role in monitoring management under this measure. However, one might argue that this measurement is not theoretically or legally practicable since the chairman of the board cannot be considered to be independent after appointment. The UK Corporate Governance Code (2003) establishes that "...the chairman should, on appointment, meet the independence criteria set out in this Code, but thereafter the test of independence is not appropriate in relation to the chairman" (provision: A.2.2).

3.3 Remuneration Committee Composition

Empirically, despite the importance of the function of the remuneration committee in determining managerial compensation, and evaluating their performance, the empirical evidence is scarce and mixed. Previous studies have examined the impact of the quality of remuneration committees in determining the level and the structure of executive pay. In an effort to determine the quality of remuneration committees, these studies have utilised the proportion of outside directors on such committees as a proxy for remuneration committee independence (e.g. Anderson and Bizjak, 2003; Vafeas, 2003a; Newman and Mozes, 1999), the effect of the presence of a remuneration committee on managerial compensation (e.g. Conyon and Peck, 1998; Main and Johnston, 1993), and the affiliated directors sitting on these committees (e.g. Daily et al., 1998).

Daily et al. (1998), in their cross-sectional study of a sample of 200 US firms in 1992, found that the existence of affiliated directors on the remuneration committee does not affect CEO compensation. Also, Newman and Mozes (1999) utilising the same time period, i.e. 1992, and using a sample of 161 US firms, found that the presence of internal directors on the remuneration committee is

insignificantly related to CEO compensation. These pieces of research support the perspective of optimal contracting, which suggests that the board of directors and its subcommittees act in the best interests of shareholders and design the managerial remuneration to maximise the firm's value.

However, other studies provide support for the managerial power theory, which argues that managers have influence over the internal governance mechanisms in determining their compensation package. For example, O'Reilly et al. (1988) showed that CEOs receive greater compensation when other firms' CEOs sit on the remuneration committee. Moreover, Bebchuk et al. (2002) interpret the shortage of relevant performance criteria in setting the option arrangements as an implication of managerial power in determining the managerial compensation.

Anderson and Bizjak (2003) found some evidence of the impact of the composition of the remuneration committee (i.e. the percentage of outsiders on the committee) and the presence of the CEO on the remuneration committee on the level of executive compensation and the pay-performance sensitivity. Main and Johnston (1993), in a sample of 220 UK firms, found no empirical support for the notion that the presence of the remuneration committee was an effective tool for providing motivation to managers to maximise the firm's value. Conversely, they found that the existence of a remuneration committee in a firm increases the managerial compensation by 21%. Also, they found said compensation increases by 40% when the CEO holds the position of chairman of the board. However, Conyon (1997) found lower rates of increase in executive remuneration in firms which adopted remuneration committees between 1988 and 1993.

Sun and Cahan (2009) developed a comprehensive measure to evaluate the remuneration committee's quality and investigated the effect of the remuneration committee's quality on pay-accounting earnings sensitivity. In order to calculate and quantify the quality of the remuneration committee, they used a multidimensional model comprised of six elements that reflect a remuneration committee's characteristics; namely, the percentage of directors appointed by the CEO to the committee, the proportion of directors with 20 or more years of board service time, the proportion of members who are CEOs of other firms, the proportion of members who serve on three or more boards, remuneration committee members' ownership, and the committee size. Then they examined the impact of a remuneration committee's quality on the pay-performance sensitivity of a sample of 812 US listed firms. They found that CEO cash compensation is positively related to accounting earnings in firms with a high quality remuneration committee present.

However, previous studies contain some gaps or limitations which might reflect the ambiguous role of the remuneration committee in determining optimal compensation arrangements. For example,

the proportion of outside directors on the committee has been used to measure committee independence (e.g. O'Reilly et al., 1988; Singh and Harianto, 1989; Conyon and Peck, 1998; Anderson and Bizjak, 2000; Vafeas, 2003). Also, no other research to date has examined the impact of committee members' pay, the duality of the remuneration committee and the board chairmanship on setting managerial remuneration.

3.3.1 Remuneration Committee Size and Independence

Consistent with the literature that investigates the role of board independence on corporate governance, previous studies which examined the impact of a remuneration committee's independence have used virtually the same measures to evaluate committee independence in setting managerial compensation. For example, the proportion of outside or inside directors sitting on the remuneration committee has been used as a proxy for committee independence in most of the earlier research (e.g. Newman and Mozes, 1999; Anderson and Bizjak, 2000; Vafeas, 2003; Conyon and He, 2004; Bonet and Conyon; 2005; Johnston, 2007), while others try to examine the differences between different sorts of outside directors according to their relationships with the firm and/or the management (e.g. Daily et al., 1998; Sun and Cahan, 2009). Generally, they argue that the presence of an independent remuneration committee helps in setting the executive compensation in a way that protects the shareholders' interests (e.g. Vafeas, 2003). However, others suggest that insiders on the remuneration committee may have the motivation to enhance their reputation as decision-makers through setting appropriate managerial arrangements (Anderson and Bizjak, 2000).

Newman and Mozes (1999) investigated the impact of remuneration committee independence on the level and the structure of CEO compensation. They hypothesised that, unlike outsider-influenced firms, insider-influenced firms award their CEOs greater compensation. They identified insider-influenced firms as firms with at least one insider who sits on the remuneration committee. However, on a sample of 161 US firms in the year 1992, they found no support for their hypothesis that CEOs are awarded higher compensation in insider-influenced firms. More interesting, they found that the CEO pay-performance relationship is more favourable towards the CEO among insider-influenced firms.

Vafeas (2003) used the same indicator variable to determine remuneration committee independence in setting the CEO compensation in a larger sample of US firms for the period between 1991 and 1997. Consistent with Newman and Mozes (1999), he documented no differences in the level of CEO compensation and the pay-performance relationship between firms with an insider sitting on the remuneration committee and others with no insiders' directors. However, he found that the compensation practices had been improved within insider influenced firms after the

related regulatory changes in 1992 (i.e. the compensation disclosure and tax reforms), as he found some improvement in pay-performance sensitivity.

Anderson and Bizjak (2000) examined the association between the level of executive compensation and the proportion of outsiders serving on the remuneration committee and the presence of the CEO of the firm on its remuneration committee. They argued that firms will suffer from greater agency problems if the CEO or an insider sits on the committee. Using a randomly-selected small sample of 75 NYSE firms for the period from 1985 to 1994, they found that neither the existence of an insider, nor the CEO of the firm on the remuneration committee, affect the level of CEO compensation. However, they documented a negative relationship between the proportion of external directors and CEO salary and bonus. On the other hand, in terms of CEO option sensitivity, they found it positively correlated to the percentage of outside directors on the remuneration committee but negatively and significantly related to the presence of the CEO on the committee. Also, Conyon and He (2004) found the same findings that the proportion of insiders on the remuneration committee has no impact on the level of managerial compensation in a more recent sample of US firms (1998-2000).

Daily et al. (1998) distinguish between two sorts of outside directors sitting on the remuneration committee according to their relationship to the firm and/or the management. They classify external directors into two categories: (1) affiliated directors identified as external directors who have some personal or professional relationship with the firm or the management, (2) interdependent directors identified as external directors who were appointed during the tenure of the current CEO of the firm under consideration. Using a random sample of 200 US firms in their cross-sectional study of the year 1992, they found no evidence that the proportion of affiliated or interdependent directors on the remuneration committee affected the level or the structure of CEO compensation.

On the other hand, the UK compensation environment seems to be different from the US one. Bonet and Conyon (2005) used a large sample of 504 UK firms in 2001 to investigate whether the proportion of inside directors on the remuneration committee affected the committee's independence in setting managerial remuneration. They found that the executives of insider-influenced firms received higher levels of compensation. Nevertheless, they found this proportion has no impact on the structure of compensation.

In terms of the impact of remuneration committee size on the level and structure of executive compensation, the literature suffers from a lack of such studies, since there does not appear to be any previous research which investigates the role of this variable. Generally, it is assumed that

remuneration committees with a small number of directors may lack of sufficient depth in their combined experience and knowledge and suffer from a lack of specialist expertise when it comes to monitoring the management (Bushman et al., 2004). In addition, compared with smaller remuneration committees, larger committees are predicted to be more difficult to influence by management (Sun and Cahan, 2009).

One of the rare studies that investigated the role of remuneration committee size is that of Sun and Cahan (2009). They examined the impact of the quality of the remuneration committee in determining the cash pay-accounting performance sensitivity in a sample of 825 US firms for the year 2001. They developed a measure containing six variables including the committee size, in order to determine the remuneration committee quality. They found that as the remuneration committee size decreases, the correlation between the CEO cash pay and the firm's accounting performance decreases, suggesting that the larger remuneration committee size the greater the negative impact on the quality of remuneration committee.

3.3.2 Remuneration Committee Members' Tenure

Generally, previous studies have adopted one of two paradigms from which to theoretically investigate issues that relate to the impact of directors' tenure on their quality and/or on governance effectiveness. First, there is the expertise hypothesis, first proposed by Vefeas (2003), which argues that the directors' firm and industry knowledge increases as their tenure in the firm increases, and therefore provide their firms with higher levels of monitoring and governance quality. Also, Bebchuk et al. (2002) argued that, compared with long-tenured board members, new non-executive directors may be overly polite and respectful towards the CEO and less likely to be critical.

The second paradigm relates to the CEO allegiance or friendliness hypothesis which is also proposed by Vefeas (2003) and has been developed by Byrd and Cooperman (2010). This hypothesis suggests that long-tenured directors are more likely to develop friendship relationships with the CEO and less likely to monitor him/her. In other words, directors with long-term relationships with the CEO are assumed to have less motivation to stand against managerial proposals or recommendations.

Vefeas (2003) investigated the relationship between directors' tenure and board quality and effectiveness. Also, he examined the impact of the remuneration committee's tenure and CEO compensation. Consistent with the CEO allegiance or friendliness hypothesis, he found that long-tenured directors tend to act in the interests of the incumbent management rather than those of the shareholders. Furthermore, CEOs of firms with remuneration committees made up of long-tenure directors receive higher levels of compensation.

Byrd and Cooperman (2010) examined the association between directors' tenure and CEO average total compensation in a sample of 93 financial US firms for the year 2001. Inconsistent with the CEO allegiance hypothesis, they found board tenure to be insignificantly related to CEO compensation for the full sample. However, when they used a sub-sample of firms with CEOs who had served in their firms for six years or more, the correlation between CEO compensation and the tenure of non-executive directors became positive and significant, which provides some evidence for the CEO allegiance hypothesis.

3.3.3 CEOs of Other Firms Sitting on the Remuneration Committee

Unlike other remuneration committee characteristics, the impact of the existence of CEOs of other firms on remuneration committees has been examined by a number of studies. Mainly, researchers argue that CEOs of other firms sitting on the remuneration committees could negatively affect the pay-setting process and thus the governance quality since they have the sympathy of their counterparts (Lorsch and MacIver, 1989; Daily et al., 1998; Sun and Cahan, 2009). Also, as they prefer fixed cash compensation over non-cash compensation (Harris and Raviv, 1979; Mehran, 1995), CEOs might award the CEO of the firm the composition of compensation that they prefer for themselves (Conyon and He, 2004).

Conyon and He (2004) used a sample of 455 US companies for the period 1998-2000 to investigate the impact of several governance characteristics on the CEO total and equity-based compensation. They argued that CEOs generally prefer more cash and total compensation and less contingent compensation. Therefore, CEOs of other firms will set the CEO compensation package that is consistent with their preference, regardless of the firm's performance. However, their findings did not support this hypothesis since they noted an insignificant association between the proportion of CEO directors on the remuneration committee and both CEO total and equity-based compensation.

Anderson and Bizjak (2000) argue that the CEOs of other firms do not have the motivation to monitor top management and, alternatively, they may tend to offer excessive compensation to their counterparts in order to justify their own high compensation. Also, they suppose that the presence of other firms' CEOs on the remuneration committee may increase the agency problem since they do not have "a disposition against high pay" when they set the managerial compensation. However, they also found no evidence for this argument and concluded that the proportion of other firms' CEOs on the remuneration committee does not affect the level of CEO compensation. Consistent with these findings, Daily et al. (1998) also found little evidence for the hypothesis that the CEO of other firms award the focal CEO a compensation package that is more consistent with their preferences (i.e. more cash and total and less non-cash compensation).

However, an earlier study by O'Reilly et al. (1988), investigated the impact of several governance characteristics, including the proportion of other firms' executives on the remuneration committee on the CEO cash compensation. They argued that CEOs on the remuneration committee usually tend to set executive compensation through comparing it with their own. In a sample of 105 US firms in 1984, they found that the proportion of other firms' CEOs on the remuneration committee is closely related to CEO cash compensation. Finally, Sun and Cahan (2009) investigated the effect of this proportion on the remuneration quality in determining the cash pay-accounting performance relationship. They found that CEO cash compensation is more closely correlated with the return on equity for companies with a higher percentage of CEOs of other firms sitting on the remuneration committee, which indicates that CEO directors provide effective monitoring functions and act in the best interests of shareholders.

3.3.4 Remuneration Committee Members' Pay

The financial interests of the members of remuneration committees are affected by the compensation that they gain as directors on the board and the remuneration committee. It is argued that the governance mechanism's weaknesses or ineffectiveness may be a result of the high level of director compensation. This argument implies that these directors might tend to protect their directorships and hence their financial gains through satisfying the CEO and increasing his/her compensation since the same CEO has an influence over the appointing and reappointing process (Kosnik 1990; Vance 1983; Conyon and He, 2004).

O'Reilly et al. (1988) investigated the impact of the average salary of remuneration committee members and non-executive directors on CEO salary. They argue that remuneration committee members take their own compensation into consideration when they set the CEO compensation. Hence, the level of CEO salary may reflect that of the remuneration committee directors. In a sample of 105 US firms for the year 1984, they found that CEO salary is positively and significantly associated with the compensation level of the non-executive directors, especially the directors who are also members of the remuneration committee.

Finally, Conyon and He (2004) examined the impact of a set of corporate governance mechanisms on CEO total and equity-based compensation using a sample of 445 US entrepreneurial firms in the period 1998-2000. They suggested that highly-compensated remuneration committees may lead to committee ineffectiveness in setting the CEO compensation since they feel a strong sense of loyalty to the CEO who can assist them to keep their positions and thus their financial interests. They found that higher levels compensation that received by of remuneration committee members is associated with greater levels of CEO total compensation and a lower level of CEO equity-based compensation.

3.4 Ownership Structure

3.4.1 CEO Share Ownership

Most previous research that has investigated the association between corporate governance mechanisms and CEO compensation has included CEO share ownership as one of the most important factors in determining the extent of agency problems (Salancik and Pfeffer, 1980). Jensen and Meckling (1976) argued that agency problems might be more obvious in firms with low levels of managerial shareholdings. Therefore, the greater the proportion of outstanding shares that are owned by the CEO, the more effective this will be as a tool in aligning the interests of management with those of shareholders (Ozkan, 2007a). However, a high percentage of CEO share ownership may increase his/her power and influence over the internal governance and thus lead to him/her using this power to maximise his/her own benefits at the expense of shareholders (Holderness and Sheehan, 1988; Lambert et al., 1993).

Allen (1981) investigated the impact of different aspects of managerial ownership on the level of CEO compensation. He classified his sample into four categories including management control, family control, joint family control and indirect family control. Generally, he found a negative association between the CEO and his family ownership and the level of his/her compensation on a sample of 218 of the largest industrial US firms for the year 1976. Also, Lambert et al. (1993) found the same relationship between CEO ownership and compensation, suggesting that CEOs with greater degrees of ownership may tend to decrease their level of compensation, which leads to a large decrease in total employees' compensation and finally results in an increase in their equity value.

Finkelstein and Hambrick (1989) assumed that CEOs with higher proportions of outstanding shares in their firms have a great influence, not only on the operating decisions, but also on control decisions (i.e. on the board and its sub-committee decisions) which finally leads to greater control on their compensation levels and structures. In order to test this hypothesis, they used a sample of 110 American companies listed as part of the Leisure Industry for the years 1971, 1976, 1982, and 1983. Relying on just CEO cash compensation (salary and bonus), they found that CEO salary has a positive and significant relationship with his/her shareholdings. However, the bonus and total cash compensation were found to be insignificantly associated with CEO ownership, referring to the influence that the CEO exerts when he holds a high proportion of the firm's shares in designing his own compensation in a way that he prefers (e.g. more fixed compensation).

Further support in the US for this perspective was provided by Mehran (1995) who studied the association between a few ownership structure variables including CEO ownership and the composition of executive compensation (i.e. cash-and equity-based compensation). He found firms with higher proportions of CEO ownership awarded their CEOs less commonly through equity-based compensation and more readily with cash compensation. However, he noted a significant and positive association between the percentage of outstanding shares borne by the CEO and firm performance (i.e. ROA and Tobin's Q), suggesting that remuneration committees and/or boards of directors take into account CEO total incentives in setting their compensation (i.e. CEO ownership is a substitute for incentive alignment).

Talmor and Wallace (2000) predicted that CEOs who bear a high proportion of equity holdings in their firms behave as owners and look to maximise their own benefits through share appreciation rather than by direct gains or by influencing the level of their compensation. They used a large sample of American firms for a five year time period ending in 1997 to examine this hypothesis. Taking into consideration CEO equity holdings sensitivity to changes in the firm's stock price, they found a negative and significant correlation between CEO ownership and his/her level of compensation, which directly confirms this hypothesis and supports the notion that managerial ownership helps in aligning the interests of managers with those of shareholders.

Cyert et al. (2002) examined the effect of CEO ownership on the structure of CEO compensation using a sample of 1,648 US firms for the period 1992-1993. They found that CEO ownership plays a significant role in determining managerial compensation since they found this variable has a positive and significant relationship to CEO salary and equity-based compensation. In terms of interpreting these results theoretically, they found this relationship to be theoretically ambiguous. However, one can interpret these findings as CEOs with a high percentage of equity holdings in their firms having more controlling power over the compensation setting process to maximise their pay at the expense of the firm's value.

In the UK, Ozkan (2007a) empirically investigated the hypothesis that if the institutional shareholders have no monitoring role, CEOs with higher equity holdings will increase their influence over the internal governance and thus their own compensation. In a cross-sectional study in 2005, she found that the CEO ownership is significantly and negatively related to equity-based compensation. However, this relationship is non-significantly associated with CEO cash and total compensation. These findings reject her previous hypothesis and support the hypothesis that the interests of managers and shareholders will be more aligned if the former hold a higher percentage of outstanding shares. Moreover, the result of the results of equity-based compensation indicates

that the need for incentive compensation (i.e. equity-based compensation) is less when the CEO holds a high percentage of the firm's equity.

However, a more recent study in Denmark by Knop and Mertens (2010) arrived at different results, especially in terms of equity-based or variable compensation. They found that Dutch CEOs who own at least 1% of the shares outstanding receive higher equity-based compensation, which does not support the hypothesis that CEO ownership is a substitute for incentive alignment. Nevertheless, consistent with Ozkan (2007a), they found CEO ownership insignificantly affects CEO salaries and total compensation in a sample of 75 firms for the period 2006-2008. Finally, Byrd and Cooperman (2010) found that CEO ownership is significantly and positively associated with total CEO compensation on a sample of US financial firms.

3.4.2 Chairman Share Ownership

As the main principle of the internal supervisory structure, the chairman of the board is supposed to supervise all or most of the governance decisions. However, it is widely hypothesised that chairmen and external directors with no significant equity holdings have less motivation to enhance the governance quality and increase their value since they have no economic interests in the firm (Brickley et al., 1988; Weisbach, 1988; Jensen and Warner, 1988). In contrast, chairmen with a higher proportion of ownership are assumed to have a greater incentive to increase their own wealth by enhancing the firm performance. However, as far as the researcher knows, no previous research has investigated the role of the chairman in terms of share ownership in improving the governance quality or mitigating agency problems. Therefore, since non-executive directors and the chairman of the board have an almost similar nature and play a similar role in corporate governance, a brief review of the studies that have examined the impact of external directors' ownership is provided below.

Finkelstein and Hambrick (1989) investigated the impact of a set of corporate governance mechanisms, including the percentage of stock owned or controlled by outside directors, on CEO cash compensation. They found that the external directors' ownership is not significantly associated with CEO cash compensation. Lambert et al. (1993) examined the association between a number of ownership and board characteristics and CEO cash, non-cash and total compensation. Consistently, they noted that the proportion of non-executive directors' ownership plays no role in determining CEO compensation and thus plays no role in enhancing governance quality. Also, Core et al. (1999) arrived at similar results.

However, more recent studies have found that non-executive directors' ownership is negatively related to the level of executive compensation. Cyert et al. (2002) concluded that the equity holdings

on the part of the remuneration committee members, who are usually external directors, are negatively and significantly associated with the level of CEO compensation. Agrawal and Nasser (2009) found that firms with a blockholder representative serving as a non-executive director, award their CEOs lower levels of compensation.

In a more recent study, Knop and Mertens (2010) investigated the relationship between external board members' ownership, including the chairman, and CEO salary, performance-related and total compensation in a sample of the largest Dutch firms for the period 2006-2008. Consistent with the interests' alignment hypothesis, they hypothesise that board members who are outside directors with at least 1% of the firm's outstanding shares, have an inverse effect on CEO compensation levels. Their results provide support for this hypothesis.

3.4.3 Institutional Ownership

The inherent conflict of interests between shareholders and managers due to the separation of ownership and control is at the heart of agency theory (Jensen and Meckling, 1976). However, some sorts of ownership may help in resolving the agency problems by providing an active monitoring function. It is widely assumed that blockholders have more power and incentive to monitor management and to strengthen the internal governance and control and also to help in limiting managerial power (Shleifer and Vishny, 1986; Tosi and Gomez-Mejia, 1989; Finkelstein and Hambrick, 1989).

From this standpoint, some researchers argue that institutions are effective and play a significant role in monitoring the firms in which they have an interest through setting the managerial compensation in a way that aligns both sets of interests as they are well-informed and have more ability to sustain monitoring costs than individuals (e.g. Hartzell and Starks, 2003). However, others suggest that institutions may play a passive monitoring function due to their investment policies (i.e. they are interested in liquidity or short-term investment rather than long-term investment), which require them to monitor management and supervise the firm's activities (Coffee, 1991; Bhide, 1994; Ozkan, 2007b). Blockholders take different forms, including ownership by individuals, pension and mutual funds, corporations, private equity firms, fund managers, banks and trusts. Moreover, all these, with the exception of individual investors, are also identified as institutional investors (Cronqvist and Fahlenbrach, 2008).

The literature on the role of corporate governance on executive compensation has extensively investigated the impact of different aspects of institutional ownership in determining managerial compensation. For example in the US, Lambert et al. (1993) investigated the effect of the presence of outside parties or blockholders with at least 5% of the outstanding shares of a company on the

level of executive compensation using a sample of 303 US firms for the three year time period ending in 1984. They hypothesised that the existence of such blockholders will weaken managerial power over internal control decisions. They concluded a significant negative association between outside blockholders and executive compensation as a proxy for managerial power, which strongly supports their hypothesis. However, using a dummy variable in investigating the impact of an ownership variable could be an inaccurate method for measuring the size of the effect on the dependent variable (Murphy and Sandino, 2010). Core et al. (1999), using the same time period on a smaller sample size, arrived at the same correlation. Also, Dyl (1989) found the same relationship using the proportion of shares that are owned by the largest five outside blockholders instead of the presence of a blockholder, i.e. an indicator variable.

Mehran (1995) argued that the impact of large outside blockholders on executive compensation can be interpreted according to their monitoring role. That is, the use of incentive compensation would decrease if they are substitutes in part for monitoring activities by the board of directors. On the other hand, a positive association between outside blockholders and incentive compensation can be interpreted by the role that they play in management decisions. With regard to his sample for the years 1979 and 1980, Mehran found strong support for the first alternative, that the percentage of outstanding shares held by all outside blockholders negatively and significantly affects equity-based compensation. However, this interpretation may become inconclusive since he found that the percentage of outside ownership is not significantly related to his measures of firm performance (i.e. Tobin's Q and ROA) and positively, but non-significantly, correlated to the CEO cash compensation. Nevertheless, one can interpret the lack of association with firm performance in that the researcher did not differentiate between the different sorts of blockholders in his research (i.e. short-and long-term investors).

On the other hand, Mangel and Singh (1993), using a later time period of 1988, predicted that the proportion of equity that is held by an institutional investor will inversely affect executive cash compensation. After controlling for firm size, complexity and performance, they found strong evidence that institutional investors play a significant role in monitoring management since their ownership's percentage demonstrated a significant and negative correlation with salary and bonus that are received by executives. However, because of poor disclosure at that time, the study conducted excluded equity-based compensation. Also, Boyd (1994) argued that the number of directors on the board of directors representing large institutions (i.e. those which own 5% or more) is assumed to positively affect board control and thus the board monitoring function.

Cyert et al. (2002) investigated this relationship by dividing the CEO compensation into fixed (i.e. salary) and contingent (i.e. equity-based) compensation. Using a relatively large sample for the years 1992-1993, they found that firms with higher percentages of external large shareholders awarded their CEOs less performance-related compensation. However, the impact of this proportion of ownership was insignificantly related to the CEO's base salary. These results are consistent with the notion that institutions are substitutes in part for monitoring activities, which mitigates the need for incentive compensation.

3.5 The Role and Effect of Remuneration Consultants

This section provides a detailed review of the literature that investigates the use of remuneration consultants and their characteristics in terms of executive compensation. Reviewing previous studies in the field is believed to provide a solid background in terms of developing the debate on the role and effect of remuneration consultants' characteristics on executive compensation in order to identify the theoretical implications of these studies' findings. Also, it will assist in identifying the limitations and gaps identified in the related literature. Due to the methodological differences of these studies, this section of this chapter is divided into two main categories of literature; namely, pre-disclosure studies and post-disclosure studies.

3.5.1 Pre-Disclosure Studies

About three decades ago, William (1985) argued that the CEO has the power to influence the pay-related control decisions almost from the first stage. This is in contrast to the fundamental principle of the managerial remuneration model procedure. He suggests that the CEO knows and often approves the HR manager's and remuneration consultant's recommendations before the remuneration committee reviews them. Therefore, the remuneration consultant, who is appointed by the management, needs to satisfy the management in order to be reappointed.

Tosi and Gomez-Mejia (1989) were motivated by William's argument about the role of remuneration consultants and conducted the first study that empirically investigated the impact of using remuneration consultants on the level of CEO compensation. They argued that the remuneration consultant may be hired to legitimise compensation decisions and to make the pay-setting process appear more rational. Also, they assume that remuneration consultants may defend higher compensation levels using justifications such as the managerial labour market.

By separating their sample into management-controlled and owner-controlled firms, they hypothesise that in management-controlled firms the influence exercised on CEO pay by the CEO and remuneration consultants will be greater than in owner-controlled firms and the monitoring and

incentive alignment will be lower in both categories of firms. Using a questionnaire to collect survey data from a sample of 175 manufacturing firms, they found support for their hypothesis.

Zajac and Westphal (1995) investigated the justifications that firms provide to justify their managerial compensation practices. They found that the social movement towards evaluating executives according to shareholders return during the period 1975-1990 had shifted firms' justifications of awarding their executives Long Term Incentive Plans from attracting and retaining managerial talent into aligning the interests of managers with those of shareholders.

Wade et al. (1997) took advantage of the improvement in the US disclosure rules in 1992, which required remuneration committees to provide justifications for their choice of executive compensation plans or packages. According to the argument put forward by Zajac and Westphal, they hypothesise that remuneration committees in firms enjoy a higher level of governance quality (e.g. greater ownership concentration), face more pressure and are more likely to justify higher levels of executive compensation through external validation (i.e. the use of external remuneration consultants). In a sample of 266 US firms in 1992, they found strong evidence for the hypothesis that in general, firms that award their CEOs greater salaries are more likely to emphasis the role of external consultants, implying that the organisational legitimacy perspective might help in interpreting executive remuneration practices.

Bender (2008) provides a useful insight and data with regard to the role of remuneration consultants by investigating their role in UK compensation practices, using a qualitative approach. The author applied her study on 12 randomly-selected UK firms in the two year period starting in 2001. This research was interview-based, with the interviewees involving HR professionals, remuneration committee chairmen, NEDs, CEOs, secretaries, chairmen of boards and consultants. With respect to the criteria for choosing a consultant, she found that there is no common thread as to how firms choose their consultants. Generally, she found that the consultant's reputation and personal recommendations, often by board members, play an important role in the choice of a remuneration consultant. Also, she found that executives, especially HR directors, have an influence in the consultant selection process.

She found some evidence that the use of a remuneration consultant is seen to provide legitimacy to compensation decisions. Although employing a remuneration consultant is an internal decision (i.e. not legally compulsory), firms see it as being highly desirable from the point of view of shareholders as a means of legitimising compensation decisions. One HR director admits that "*You have to use consultants to value things. Because people expect an outside independent valuation*" (p. 21).

Moreover, she documents two main reasons for the use of multiple consultants. Firstly, it provides more data to inform compensation decisions and, secondly, it adds strength to the decision since the firm will obtain different consultants' recommendations. However, a consultant interviewee was very open about potential conflict between consultants themselves, and states "…*another consultant may have slightly different views, because to a degree we all carry some of our personal baggage with us, whether we admit to it or not*" (p.16), implying that using multiple consultants might create competition among the consultants to satisfy managers in order to secure their long-term employment.

3.5.2 Post-Disclosure Studies

Cadman et al. (2010), using a sample of 755 US firms, investigated whether remuneration consultants with greater conflicts of interest recommend higher CEO compensation. Also, they examined the impact of conflicted consultants on the pay-performance relationship. They argued that providing other services to the firm motivates remuneration consultants to recommend compensation arrangements which benefit executives' interests rather than shareholders' interests, in order to protect their revenue from providing non-executive remuneration services. Moreover, they suggested that consultants can reduce pay-performance sensitivity by recommending greater unconditional executive compensation schemes. Therefore, consultants with conflicts of interest are assumed to assist managers to extract rent through advising the need for higher levels of fixed compensation and lower levels of equity-based compensation.

Although the disclosure rules in the US, with respect to remuneration consultants, has improved since the last requirements in 2006, US firms are still not required to disclose whether the remuneration consultant provides other services to the firm. Therefore, they developed a few measures in order to assess the remuneration consultants' potential cross-selling incentives, and thus capture the conflict of interests. First, they defined the potential consultant conflict of interests as an indicator variable as to whether the firm used either Frederic W. Cook or Pearl Meyer as compensation consultants. These consultants, unlike the others in the US, provide only remuneration consulting services to customers (Waxman, 2007), so there is no possibility of supplying other services to the firm. Second, they developed an indicator variable for firms which voluntarily disclose whether the remuneration consultant provides other services to the firm. Third, an indicator variable for firms that appoint their external auditor for non-audit services was developed.

However, using different estimation methods (i.e. OLS regression and Hurber-White robust standard errors), they found that all these proxies for conflicted consultants are insignificantly associated with

the level of executive compensation. Moreover, they found consultants with conflicts of interests, according to these measurements, play no role in determining the pay-performance relationship. As a robustness check, they used other performance metrics to control for firm performance and some controls for the strength of the internal governance. However, they could not detect any relationship between conflicted consultants, using all these measures and analysis, and the level of executive compensation, nor the sensitivity of pay-performance.

 A potential justification for the lack of findings in this study was the imperfections or the errors contained in their measurements of the consultants with conflicts of interests. That is, the first measure might have been inaccurate since some firms which were not clients of Frederic Frederick Cook or Pearl Meyer did not receive other services. Furthermore, Murphy and Sandino (2010) found that both Frederick Cook and Pearl Meyer provided other services to their clients in the same year, i.e. 2006. Additionally, a survey of their website illustrated that they offered other business services to their clients, together with executive compensation services. Their second measurement might also be misleading since some firms that did not receive other services from their remuneration consultants, did not disclose this (voluntary disclosure). Consequently, their consultants may have been classified as being conflicted when they were independent. Finally, the third proxy might be inappropriate since some studies which investigated issues relating to auditors' independence, did not provide evidence that providing other services by the external auditor affects the auditor's independence (e.g. Barkess and Simnett, 1994; Craswell, 1999; Arrunada, 1999).

Conyon et al. (2009) investigated the impact of the use of remuneration consultants generally, and remuneration consultants with conflicts of interests on the CEO total compensation and equity pay mix. In order to provide a comparative study, they used a sample of 229 firms from the United Kingdom and 308 firms from the United States in the years 2003 and 2006 respectively. These years reflect the first year of applying the new disclosure requirements in each country. The researchers used the mandatory disclosure in the UK, where firms have to disclose whether the remuneration consultant provides other services to the firm, to measure the extent of conflicted consultants. However, as similar information is not available in the US, they applied one of the measurements used by Cadman et al. (2010) and measured the conflicted remuneration consultant as a dummy variable equal to one if the remuneration consultant was either Fredric Cook or Pearl Meyer, zero otherwise.

They argued that the remuneration consultants' distorted incentive may prevent their compensation arrangements from aligning the managers'-shareholders' interests and could make them tend to become favourable with regard to the executives. That is, in terms of the managerial power theory,

executives may exert influence on the remuneration consultant to increase their compensation and design a compensation structure in favour of the executives, rather than enhancing the firm's value. They theorise that this power can arise in a number of ways such as engaging the consultant to supply other services to the firm. Such an action may induce the consultant to suggest biased advice in order to satisfy executives and thus secure their benefits.

The researchers use ordinary least squares (OLS) regression on cross-section data to test their hypotheses. After controlling for human capital and economic determinants and industry variation, they found that the use of a remuneration consultant is positively and significantly related to the total CEO compensation in the US. However, they found the use of remuneration consultants has no impact on the level of CEO compensation in the UK. In both countries, the use of such a consultant was found to play a strong role in incentivising CEOs through significantly increasing the CEO equity pay mix. Finally, with respect to the conflicted consultant, the empirical measures for consultants with conflicts of interests were found to be insignificantly related to the total CEO compensation and equity pay mix in both samples.

Although this study presents preliminary evidence and produces some important and indicative results for the role of remuneration consultants in mitigating agency problems, some limitations and measurement errors should be taken into account. For example, the researchers used Cadman et al.'s (2010) proxy for the conflicted consultants. However, this measure contains some measurement errors as discussed earlier. Furthermore, their study examines the use of consultant and conflicted consultant only with regard to the total CEO compensation and equity pay mix, while the remuneration consultants' characteristics might affect other aspects of the CEO compensation structure. For example, the influence of managerial power over the remuneration consultants might be clearer if other components of compensation were included, such as salary, which is the most favourable for executives, bonuses, total short-term compensation and long-term compensation components. Therefore, the theoretical implications of the role of remuneration consultants would be more obvious if more CEO compensation components had been included.

Murphy and Sandino (2010) also provided another comparative study between the US and Canada of the role and effect of remuneration consultants on determining CEO compensation. Motivated by the current debate, they investigated whether the existence of conflicted consultants leads to a higher CEO compensation. They suggested two main hypotheses; namely, the *other services hypothesis* and *the repeat business* hypothesis. In order to overcome the measurement errors in Cadman et al. (2010) and Conyon et al. (2009), they utilised external data extracted from tax filings, together with firms' reported voluntary disclosures in proxy statements with respect to being

providing with other services by the remuneration consultant. The second hypothesis was measured using an indicator variable equal to one if the remuneration consultant works exclusively for the board and zero if they also work for the management. Moreover, due to the higher quality of disclosure in Canada, which requires firms to disclose the fees of remuneration consultants and the fees for providing other services, they examined the impact of the proportion of fees that were paid to the remuneration consultant for supplying other services on the level of Canadian CEO pay.

In line with Cadman et al.'s (2010) and Conyon et al.'s (2009) arguments, they suggested that remuneration consultants realise the fact that advising towards a "lower-than-expected" level of CEO compensation might threaten the consultant's revenues from both remuneration and non-remuneration services. Moreover, they argued that the remuneration consultant takes their future business in the firm into consideration when they design the CEO compensation. That is, if the remuneration consultant is to work exclusively for the remuneration committee, it is assumed to be relatively independent in designing managerial compensation. Otherwise, a conflict of interest might arise as it would be concerned about getting repeat business.

Murphy and Sandino used a sample of 1,032 US firms and 117 Canadian firms. The US sample was substantially larger than Conyon et al.'s (2009) sample, and relatively larger than the sample used by Cadman et al. (2010). Using OLS regression to test their hypotheses, they found that firms with remuneration consultants providing other services in addition to remuneration consulting were "marginally" and positively associated with the level of CEO compensation in the US, and significantly and positively so in Canada. This provides some support for the managerial power theory. With respect to their second hypothesis, they surprisingly found that CEOs receive higher levels of compensation if the remuneration consultant works exclusively for the board or the remuneration committee. This caused them to reject their "repeat business hypothesis". However, the researchers found this result to be difficult to interpret. Finally, they concluded that the level of CEO compensation is higher in Canadian firms when the fees paid to remuneration consultants for non-remuneration services are relatively large relative in comparison to the fees for managerial remuneration services. However, given the potential biases inherent in the case of voluntary disclosure, this study relied on voluntary disclosure in measuring "other services" as one of its proxies (p. 248). Finally and more importantly, the study does not investigate the impact of conflicted consultants on the structure or the design of CEO compensation and merely includes the total CEO compensation, which may lead to inaccurate theoretical interpretation.

Conyon et al. (2011) studied the determinants of using remuneration consultants in firms, and also investigated the relationship between conflicted remuneration consultants and the level of total

CEO compensation. The authors developed a multi-theoretic approach in order to explain the role and effect of remuneration consultants in terms of managerial compensation setting. In examining the determinants of using remuneration consultants on the part of firms, they relied on the institutional theory where firms adopt other organisations' practices to obtain social acceptability and credibility. They suggested that firms or boards are more likely to hire external remuneration consultants who are supposed to have the expertise and knowledge in the field, in order to legitimise their managerial compensation package. To test this perspective, they used two main variables which reflect the firm and the compensation package complexity; namely, firm size and CEO equity mix pay.

Moreover, in line with social comparison theory, the researchers argued that remuneration consultants and non-executive directors build their compensation decisions according to surveys and social comparisons. Therefore, they hypothesise that, in choosing a remuneration consultant, firms take into consideration the consulting firms' other clients in order to achieve similar levels and arrangements of compensation with those of the consultant's peer-group firms. Finally, they investigated the impact of consultants with conflicts of interest on the level of total CEO compensation. According to managerial power theory, they hypothesised that those remuneration consultants who provide other services to a firm are more likely to recommend compensation contracts in favour of the management rather than in favour of the shareholders. To test this hypothesis, the researchers used an indicator variable of whether the remuneration consultant supplied other services to the client firm.

The researchers employed two analytical techniques to test their empirical models. First, the Probit technique was used to estimate the model that determines whether boards use remuneration consultants and, second, the OLS estimators are utilised to test the hypothesis that is related to pay outcomes. In a set sample of 232 UK firms in 2003 (i.e. the same sample that was used in their previous study (Conyon et al., 2009)), they found support for their first two hypotheses that firm size and equity pay mix is positively related to the use of remuneration consultants. This is consistent with institutional theory. Additionally, they found strong evidence for the social comparison theory through the positive and significant relationship between the level of CEO compensation and the level of CEO compensation in peer-group firms on the part of firms that share remuneration consultants and have a higher proportion of interlocking non-executive directors. Finally, they found some evidence for the managerial power theory when they noted that the level of CEO compensation is greater in firms with conflicted remuneration consultants (i.e. consultants who

provide other services to the client firm). However, the researchers indicated that the result is not robust when using alternative specifications.

Armstrong et al. (2010) investigated the effect of corporate governance on the level of total CEO compensation and the effect of the use of remuneration consultants in determining this relationship. Moreover, they investigated the impact of conflicted consultants on CEO pay. The researchers argued that the use of remuneration consultants is related to the strength of internal governance. Consequently, the extent of the strength of the governance structure might explain the relationship between the use of remuneration consultants and excessive CEO compensation. Accordingly, they hypothesised that remuneration consultant usage is predicted to be associated with weaker governance, which results in CEO compensation that is higher than predicted by economic determinants. This is because of weaker internal governance rather than the use of external remuneration consultants.

The authors examined this correlation using a sample of 2,116 US firms (the largest compared with Cadman et al. (2010), Conyon et al. (2009), Conyon et al. (2011), and Murphy and Sandino (2010)) in the fiscal year 2006. An indicator variable (equal to one if the firm uses a remuneration consultant, zero otherwise) was used as a proxy for the use of remuneration consultants. A set of governance variables were applied to measure the governance strength (i.e. board size, the proportion of insider directors, board age, busy board, outside chairman and the proportion of outsiders appointed by the CEO). CEO compensation was measured by the sum of cash and non-cash CEO compensation. Finally, they measured "the potential conflicted consultant" using Cadman et al.'s (2010) measure (i.e. specialised or non-specialised consultants).

Consistent with previous research, they employed OLS estimation to test their hypotheses. They found that the use of remuneration consultants is associated with higher CEO compensation and that firms with weaker governance are more likely to hire remuneration consultants. However, in order to control for the endogenous nature of the use of remuneration consultants, the researchers employed the propensity scoring methods to match firms on both governance and economic attributes. They found that the differences in CEO compensation levels are non-significant when firms that use and do not use remuneration consultants are matched on both governance and economic characteristics. This supports their argument that excessive CEO compensation on the part of consultant users is more likely to be driven by governance differences rather than by the use of remuneration consultants. Finally, they found no relationship between their empirical measure of conflicted consultants and the level of total CEO compensation.

Voulgaris et al. (2010) investigated the impact of the use of remuneration consultants on the level and the structure of CEO compensation on a sample of UK firms. Their sample consisted of 500 UK firms from the FTSE 100, the FTSE 250 and the Small Cap indices that are larger than Conyon et al.'s (2009 and 2011) and smaller but similar to those of the US studies. According to the managerial power theory, they hypothesised that the use of remuneration consultants helps management to extract excessive rent through their influence on the appointment process of the external consultant, and thus the existence of a remuneration consultant in a firm leads to both higher levels of compensation in general and also to compensation arrangements that are more favourable to the CEO in their constitution (i.e. more fixed and less equity-based compensation).

Furthermore, the researchers examined the determinants of the use of remuneration consultants in the same sample. In line with their previous argument, they also suggested that CEO power may explain the decision to hire a remuneration consultant. In order to test the latter hypothesis, the authors used two proxies to measure CEO power; namely, CEO ownership and tenure. With respect to the first hypothesis, they found that the use of a remuneration consultant has a strong impact on both the level and structure of CEO compensation. Consistent with previous findings, they found that the existence of a remuneration consultant is positively and significantly associated with the level of CEO compensation. More importantly, they noted that the use of external consultants is negatively and significantly related to the proportion of salary and positively and significantly associated with the proportion of equity-based compensation, implying that hiring a remuneration consultant has a positive impact on the design of managerial compensation contracts, which might be interpreted under the optimal contracting perspective.

In line with this interpretation, they found no relationship between CEO power and the decision to hire a remuneration consultant. An interesting feature of their study is the use of the 2SLS technique to control for the potential endogenous nature of the use of a remuneration consultant. They re-estimated their models using this method, where the first stage is a probit selection model on the use of remuneration consultants. The findings of this analysis confirm their main findings that CEOs still receive a lower salary and obtain higher equity-based compensation in firms that use remuneration consultants. However, despite the data availability in the UK, this research did not attempt to control for potentially conflicted consultants by examining whether the remuneration consultants provide other services, or whether the CEO appointed them.

Minhat (2008) widened the scope of the debate and tried to investigate the impact of the use of multiple consultants and the consultant market share on the level of CEO compensation. The researcher argued that the action of employing more than one consultant reflects management's

attempt to "shop around" for favourable advice, and thus, due to the CEO's power over the consultant appointing process, the CEO may tend to hire multiple remuneration consultants in order to increase his/her chances of gaining better rates of compensation. According to this argument and from the perspective of managerial power, they hypothesised that consultants with greater market shares tends to recommend higher levels of CEO compensation since they perceive that the CEO has a significant influence in reappointing them. This competitive atmosphere leads the consultant to compete with other consultants by advising compensation arrangements that are favourable to the CEO rather than to shareholders.

Minhat used a sample of 175 non-financial FTSE 350 firms (700 firm-years). An attractive aspect of this study was using panel data methodology, which gives the researcher the ability to reduce the continuous firm effects and to capture these effects in the error structure of the model. Using pooled OLS regression and the random effects methods to test her hypotheses, the researcher found that the use of multiple remuneration consultants is insignificantly associated with the level of CEO compensation. On the other hand, the consultant's market share was found to significantly increase the total CEO compensation, which supports her hypothesis related to the managerial power theory. However, in measuring the consultant's market share, the researcher excluded the observations with multiple remuneration consultants and included only companies using one consultant. This may result in sample selection bias, since it is found that the use of multiple remuneration consultants is highly correlated with firm size and complexity (e.g. Voulgaris et al., 2010). Additionally, the study does not investigate the effect of these variables on the structure of CEO compensation since it is difficult or might be misleading to identify the theoretical implications by merely examining the impact of these variables on total CEO compensation.

Goh and Gupta (2010) investigated the remuneration consultant turnover and the change in the composition of the firm's consultants on the level and structure of executive compensation. They hypothesised that the actions involving a change of remuneration consultants and/or the increase in the number of consultants reflects managerial opinion-shopping for favourable compensation, which can be interpreted under the rent extraction or managerial power perspective. The researchers used ordinary least square (OLS) regressions to test their hypotheses.

On a relatively large sample consisting of 1,878 observations obtained from FTSE 350 firms over the period 2002-2008, the authors found that CEOs and executives of firms change their main consultants in order to receive more fixed and less equity-based compensation in the year of the switch. This supports the opinion-shopping hypothesis and the rent extraction theory. However, they found no relationship between the change in the composition of the firm's portfolio of

consultants (i.e. the increase or decrease in the number of consultants) and the level and structure of executive compensation.

However, with respect to their measure of consultant turnover, the researchers used an indicator variable as to whether the firm changed its main remuneration consultant but did not identify the term "main consultant" or the methodological criteria that had been used to classify a consultant as the main consultant in the case of the existence of multiple consultants. Throughout our survey on firms' annual reports, during the data collection stage I did not notice that firms disclosed whether or not they had main consultants among their consultants.

Nevertheless, since the researchers gathered their data from databases (i.e. *BoardEx* and *Hemscott*), unlike other studies in the UK which mainly collected data manually from annual reports, these data providers may provide such information. However, the authors did not mention this in their methodology section. Moreover, although the related data is available in the UK, the researchers did not attempt to examine the effect of consultants with conflicts of interests on the level and structure of executive compensation using their panel data.

3.6 Overall Summary

This chapter reviewed and discussed previous literature on CEO compensation, corporate governance, ownership structure and the role of remuneration consultants. Generally, the literature review demonstrates that research into executive compensation and corporate governance is scarce, especially with regard to the UK, and at a developmental stage. Three main groups of corporate governance attributes are covered in this chapter; namely, board of directors' structure, remuneration committee composition and ownership structure.

The review of the related literature on corporate governance mechanisms and ownership structure shows relatively conflicting findings for Anglo-Saxon and other countries. For example, while studies in the UK and the USA have found that the proportion of non-executive directors plays an inverse role to monitoring management (Core et al., 1999; Ozkan, 2007a; Fahlenbrach, 2009), some evidence from Asian-based studies show the opposite in that the external directors enhance the quality of governance and play an effective monitoring function (Basu et al., 2007).

Moreover, some different results are found within the Anglo-Saxon countries. For instance, the empirical evidence on the role of institutional investors in the UK shows that they are passive and ineffective in terms of monitoring (Cosh and Hughes, 1997; Franks et al., 2001; Goergen and Renneboog, 2001; Ozkan, 2007), whereas the US institutional investors are found to improve governance quality and the monitoring of managers (Mangel and Singh, 1993; Fahlenbrach, 2009).

Although much of the empirical evidence concludes that governance practices have failed in aligning the interests of managers with those of shareholders, these studies' findings are mixed and cannot accurately determine the optimal governance structure which produces optimal remuneration contracts. An explanation of the mixed findings and the limitations with regard to the previous literature is that they used different hypotheses, methods, compensation variables and measures, governance characteristics, ownership variables and control variables.

However, one of the most notable limitations is the time periods that were used by the UK studies. Most of the previous studies used time periods before the recent UK corporate governance reforms. This limits the validity and reliability of their findings and recommendations, since they were published before the recent disclosure requirements (Directors' Remuneration Report Regulations, 2002), which enhanced the level of the disclosure and increased the accountability of remuneration committees. Also, it has since been made a requirement that directors' remuneration reports be subjected to an audit by an external auditor (Section, 235, Sub., 4). The latter development has increased the reliability of compensation data and mitigates the possibility of manipulating or backdating actions compared with the pre-report studies.

Another methodological limitation is that most of the studies employed parametric techniques (see Table 2.1), without checking for the critical assumptions or conditions that are required before applying parametric methods. Statistically, it is argued that if any of the assumptions are violated or are not met by the nature of data, parametric tests become inappropriate, and non-parametric techniques are recommended (Balian, 1982). Accordingly, the findings of these earlier studies might suffer from some methodological limitations and thus might produce misleading or inaccurate findings.

With respect to the literature that discusses the role of remuneration consultants, although these studies have made significant contribution to knowledge by providing solid theoretical and empirical background for the area, a number of limitations or gaps have been detected. Firstly, all the studies that examined the role of consultants with a conflict of interest (i.e. Cadman et al., 2010; Conyon et al., 2009; Murphy and Sandino, 2010; Armstrong et al., 2010; Conyon et al., 2011) are limited by their use of cross-sectional data, which may lead to several inherent limitations in such studies. For example, while all these studies explained the positive relationship between the use of remuneration consultants and CEO compensation under the managerial power theory, the use of remuneration consultants might be endogenous and subject to omitted variables biases. For instance, larger and more complex firms that require a higher quality of executive often need remuneration consultants to set appropriate executive compensation packages to avoid costly

mistakes and/or these talented executives who receive greater compensation are predicted to have a greater tendency to hire remuneration consultants, which makes it difficult to interpret this positive correlation under the managerial power theory (Conyon et al., 2009).

In order to solve this problem, Armstrong et al. (2010) and Murphy and Sandino (2010) employed a propensity score matched pair methodology, where CEO compensation in firms using consultants (the treatment group) can be compared with firms that do not use consultants (the control group). However, Murphy and Sandino (2010) stated that their ability to correct for this problem is limited by the poor explanatory power of their first-stage logit models. Moreover, Conyon et al. (2009) suggested that the claim that remuneration consultants are randomly assigned to firms is inappropriate and not feasible since, in reality, the assignment of remuneration consultants to firms is not random and thus there will be significant differences in the attributes of firms that use remuneration consultants.

Therefore, as cross-sectional data is statistically found to have less ability to control for the problem of endogeneity, Conyon et al. (2009) suggested that using panel or longitudinal data is expected to help in controlling for such a problem by testing within-firm variation using multi-period setting and thus providing a clearer picture of the impact of the use of remuneration consultants and conflicted consultants on CEO compensation. Moreover, panel data is attractive since it usually includes much more information than single cross-sections, and therefore allows for an increased precision in estimation (Hoechle, 2007).

Furthermore, unlike cross-sectional analysis of a single-years' data, a time-series of remuneration consultant data is supposed to enable researchers to test further dimensions of this subject, such as the impact of remuneration consultant turnover on the level and structure of managerial compensation. Although there are two studies which used panel data (i.e. Minhat (2008) and Goh and Gupta (2010)), they did not investigate the impact of conflicted consultants on CEO compensation.

Secondly, all previous research that examined the impact of conflicted consultants on CEO compensation is based on data for the first fiscal year of imposing the new disclosure rules with regard to the use of remuneration consultants. That is, in the US, Conyon et al. (2009), Cadman et al. (2010), Armstrong et al. (2010), and Murphy and Sandino (2010) used data corresponding to the year 2006, and in the UK, Conyon et al. (2009) and Conyon et al. (2011) used data from the year 2003, which reflect the transition-years in each country. Therefore, using similar sets of data for the

same year in the same country to investigate the same issue on the part of all these studies may negatively affect the generalisability of the results and lead to biased findings.

Moreover, using a transition-year data may not accurately reflect actual practices and might contain some potential transition-year effects inherent in such data. For example, Murphy and Sandino (2010) found that there was no complete compliance with the new disclosure requirements during the transition-year on the part of many US firms and that the narratives in disclosure rules might not be as informative as they would be in the following years. In line with this finding, the US Securities and Exchange Commission (SEC) sent notes to around 300 US firms criticising their first year disclosure and requiring more and better quality disclosure information (Wall Street Journal, Aug 31st, 2007).

Thirdly, since US firms are not mandated to disclose whether remuneration consultants provide other services to the firm, US studies employ some other measures that might contain some measurement errors, as discussed previously. Consequently, their findings should be taken with caution. For example, Cadman et al. (2010) and Conyon et al. (2009) treated the potential consultant conflict of interests within US firms as an indicator variable in terms of whether the firm used either Frederic W. Cook or Pearl Meyer as compensation consultants and claim that these consultants, unlike the others in the US, provide only remuneration consulting services to customers. However, this measure might be inappropriate, since some firms that are not clients of Frederic W. Cook or Pearl Meyer do not receive other services. Moreover, a survey of these consultants' websites illustrates that they do offer other business services to their clients in addition to executive compensation services. The findings of this survey is also supported by Murphy and Sandino (2010) who found that both Frederick W. Cook and Pearl Meyer provided other services to their clients in the year under consideration, i.e. 2006.

Finally, most previous studies examined the effect of remuneration consultants' characteristics on total CEO compensation. However, remuneration consultants can potentially affect other dimensions of the CEO compensation structure, not just the level of total compensation (Conyon et al. 2009), which might result in a misleading interpretation in terms of the theoretical implications of the findings. For example, while all studies which found a positive relationship between the use of remuneration consultants and the total CEO compensation interpreted this relationship in terms of managerial power theory, Voulgaris et al. (2010) found that this positive relationship provides strong support for the optimal contracting theory since they found that this increase in the total CEO pay was mainly generated by the increase in equity-based components, which are theoretically supposed to increase pay-performance sensitivity. Therefore, in order to sufficiently explain the

theoretical implications of the findings, I argue that all important compensation components must be included in the analysis (i.e. salary, bonus, LTIPs, ESOs) together with the total compensation.

In conclusion, this study will try to mitigate these limitations and fill the gaps left by the previous studies as follows. Firstly, this study will utilise panel data to examine the role and effect of remuneration consultants on CEO compensation in order to test the long-term impact of changes in disclosure requirements on compensation practices. Secondly, this research will investigate the effect of consultants' characteristics on both the level and structure of CEO compensation in order to accurately determine the theoretical implications of the findings. Thirdly, this study will examine the impact of two variables that might reflect potential conflicts of interest, together with providing other services variable, which has not yet been investigated in the UK context; namely, the appointment process of the consultants and whether or not the consultant is a specialist in compensation services. Finally, this research will investigate the effect of using legal advisors to offer advice on executive compensation. This will be the first study to investigate this issue.

Table 3.1 Summary of Key Studies Investigating the Relationship between Corporate Governance, Remuneration Consultants, and CEO Compensation

Study	Dependent Variable(s)	Independent Variable(s)	Sample characteristics	Analysis Technique	Main Findings
Core et al. (1999)	1.CEO Salary 2.CEO Total cash 3.CEO Total compensation	1.CEO-chairman duality 2.Board size 3.Inside directors 4.Outside directors appointed by CEO 5.Gray outside directors 6.Interlocked outside directors 7.Outside directors over age 69 8.Busy outside directors	A sample of 205 US firms between 1982 and 1984.	OLS Regression	1.A positive and significant relationship between the level of CEO compensation and CEO-chairman duality, board size, outside directors appointed by the CEO, gray outside directors, interlocked outside directors, outside directors over age 69, and busy outside directors. 2. A negative and significant relationship between CEO compensation and CEO equity ownership, the presence of another executive on the board who owns at least 5% of the outstanding equity, the existence of an external party or blockholder that owns at least 5% of the outstanding shares, and inside directors on the board
	1. The average ROA for the subsequent year, 3 years, or 5 years. 2. The average RET for the subsequent year, 3 years, or 5 years	Predicted excess compensation	A sample of 205 US firms between 1982 and 1984.	OLS Regression	Excess compensation has a significant negative correlation with subsequent f accounting-and market-based performance measures.
Ozkan (2007a)	1.Salary 2.Bonus 3.LTIPs 4.ESOs	1. Board size 2. Outside directors 3. CEO ownership 4. Largest 4 institutional ownership 5. Total institutional ownership 6. Blockholder ownership 7. Directors' ownership	A sample of 414 UK firms in 2005	OLS Regression	1. A positive and significant relationship between board size and the proportion of non-executive directors, and all CEO compensation components. 2. A negative and significant relationship between % largest four institutional ownership and total institutional ownership, and CEO cash and total compensation. The relation was non-significant with equity-based compensation. 3. A negative and significant relationship between blockholder ownership and directors' ownership, and all CEO compensation components. 4. CEO ownership was non-significant related to all CEO compensation variables.
Boyd (1994)	Total cash compensation (salary plus bonus)	1.CEO-chairman duality 2.The proportion of insider directors 3.Board stock ownership 4.Institutional ownership 5. Director compensation	A sample of 193 US firms for the year 1980	OLS Regression	1.The insider ratio loaded positively on the board control dimension (was negatively associated with compensation) 2.CEO duality and total director compensation loaded negatively on board control 3.Board stock ownership and board representation by ownership groups loaded positively on board control
Finkelstein and Hambrick (1989)	1.Salary 2.Bonus 3.Total cash compensation	1. Firm size 2. Firm performance 3. Firm complexity 4. CEO tenure 5. CEO ownership 6. CEO's family ownership 7. Board vigilance 8. Human capital	A sample of 110 US firms listed under Leisure Industry in the years 1971, 1976, 1982, and 1983	OLS Regression	1. Salary is found to be positively and significantly related to firm size, and non-significantly related to firm performance, complexity, CEO general management experience, and CEO tenure, and the percentage shareholders of outside directors 2. Firm performance and CEO general management experience are found to strongly increase bonus. However, it is found to be non-significantly affected by firm size, complexity, CEO tenure, CEO ownership, and the percentage shareholders of outside directors. 3. Total compensation is found to be positive and significantly correlated with firm size and firm profitability. Surprisingly, the CEO's family ownership has a negative and significant impact on total compensation. Other variables were non-significantly associated to this component
Talmor and Wallace (2000)	1.Total compensation 2.Percentage of incentive compensation	1.Board 2. Blockholder ownership 3. CEO ownership 4. CEO tenure 5. Industry dummies 6. Market to book 8. Standard deviation of ROE 9. Firm size and performance	A sample of 904 US firms for the period 1992–1997	Fixed-Effect Regression	1. Total compensation is found to be positively related to ROE, firm size, future growth, the relative level of regulation within the subgroups. However, blockholder ownership has non-significant association with this variable. 2. The percentage of incentive compensation has a positive and significant relationship with ROE, firm size, future growth, board strength. 3. Both board strength and RET are negatively and significantly correlated to total and incentive compensation.

Study	Dependent Variable(s)	Independent Variable(s)	Sample characteristics	Analysis Technique	Main Findings
Lambert et al. (1993)	1. Salary 2. Bonus 3. Total cash compensation 4. Long-term compensation 5. Total compensation	1. CEO ownership 2. Non-executive directors ownership 3. The existence of insiders in the board who owns at least 5%. 4. The existence of an external party or blockholder that owns at least 5 %. 5. The proportion of non-executive directors in the board 6. The percentage of external board members who were appointed after the present CEO	A sample of 303 US firms for the period 1982,1983, and 1984	OLS Regression	1. A positive and significant relationship between the percentage of external board members appointed by the CEO and total compensation. 2. A negative and significant association between CEO ownership and blockholder ownership and total compensation. 3. Total compensation is not significantly related to external board members' and a non-CEO internal board members' ownership.
Byrd and Cooperman (2010)	The average total compensation paid to the firm's CEO over 1998-2000 relative to the firm's market capitalization	Board and remuneration committee members' tenure	A sample of 93 financial US firms for the 2001	OLS Regression	No significant association between CEO compensation and board tenure. However, interestingly, when they only include subsample firms with CEOs with tenure of six years or greater, they conclude a significant and positive correlation with CEO compensation.
Brick et al. (2006)	1. CEO cash compensation 2. CEO total compensation	Directors' compensation		Fixed effect regression	There is a highly significant positive relationship between CEO and director compensation.
	Firm performance	Excess compensation for CEOs and directors, or the proportion of CEO compensation explained by director pay and vice versa			The relationship between firm performance and excess compensation is negative and significant.
Mehran (1995)	1.Percentage of cash compensation 2. percentage of new stock options, (Black-Scholes) 3. percentage of equity-based plans	1. CEO and managers' ownership 2. Blockholders' ownership 3. Percentage of outside directors	A sample of 153 randomly-selected manufacturing US firms for the years 1979–1980	OLS Regression	1. Cash compensation is positively but non-significantly related to CEO and managers' ownership and outside blockholders' ownership, and negatively related to the percentage of outside directors 2. Equity-based compensation is negatively and significantly correlated with CEO and managers' ownership and outside blockholders' ownership, and positively and significantly related to the percentage of outside directors
	1.Firm performance: a. Tobin's Q b. ROA	1.Percentage of cash compensation, new stock options, and equity-based plans 2. CEO and managers' Blockholders' ownership			ROA and Tobin's Q is positively related to equity-based CEO compensation and all their ownership variables, and negatively related to CEO cash compensation.
Conyon (1997)	Cash compensation of the highest paid director (salary plus bonus)	1.CEO duality 2.The existence of remuneration committee	A sample of 213 UK firms for the years 1988–1993	Fixed effect Regression	1. Firms adopting remuneration committees were found to have lower growth rates in executive pay. 2. CEO duality was found to play no role in determining executive compensation.
Ozkan (2007b)	1.Cash compensation (the sum of salary and bonus) 2.Total compensation (the sum of salary, bonus, value of stock options and LTIP)	1. Institutional ownership concentration 2. Blockholders' ownership concentration 3. Directors' ownership concentration 4. Board size 5. Percentage of non-executive directors	A sample of 390 UK non-financial firms for the period 1999-2005	GMM Regression	CEO cash compensation has a positive and significant relationship with board size and a negative and significant correlation with institutional, blockholder, and non-executive director ownership. However, the proportion of non-executive directors and executive directors' ownership were found to be non-significantly related. Total compensation has a positive and significant relationship with board size, and a negative and significant correlation with institutional and blockholder ownership. However, executive and non-executive directors' share ownership was found to be non-significantly related. CEO pay-for-performance sensitivity of option grants is positively and significantly related to blockholder and institutional ownership, and negatively correlated with board size and proportion of non-executive directors.

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Study	Dependent Variable(s)	Independent Variable(s)	Sample characteristics	Analysis Technique	Main Findings
Conyon and Peck (1998)	1. Salary 2. Bonus 3. Other miscellaneous earnings of a company's highest-paid director	1. The proportion of nonexecutive directors 2. The existence of a remuneration committee 3. The proportion of nonexecutives on the remuneration committee 4. CEO-chairman duality	A sample of 100 UK companies in the period 1991-1994	OLS Regression & Fixed-Effect Regression	1. Neither the proportion of outside directors on the board nor CEO duality was related to executive compensation 2. Firms adopt remuneration committees or with a high proportion of outsiders on those committees generally pay higher levels of executive compensation
Fahlenbrach (2009)	Excess compensation measured by the natural logarithm of total compensation, industry-adjusted compensation, and size-adjusted compensation (Black-Scholes)	1. Board size 2. CEO duality 3. Board independence (fraction of all directors who are not employees of the firm) 4. Largest 5 institutions ownership 5. All institutions ownership 6. The level of public pension fund ownership 6. G-index	A sample of 11,029 US CEO-years for 1993-2004	Fixed Effects Regression	1. CEO compensation is found to be positively and significantly affected by board size and CEO-duality, and negatively affected by institutional ownership. 2. Pay-performance sensitivity has a negative and significant relationship with board size, G-index, institutional ownership, and pension fund ownership, and positive and significant association with CEO-duality.
Basu et al. (2007)	CEO cash compensation	1. Board size 2. The number of outside directors 3. An outside director indicator 4. A keiretsu indicator 5. A main bank indicator 2. Ownership variables 6. Directors' ownership 7. A family ("Dozoku") indicator	A sample of 174 large Japanese corporations during 1992–1996	OLS Regression	1. CEO cash compensation is positively and significantly related to directors' ownership and family ownership, firm size, growth opportunities, and executive tenure 2. CEO cash compensation is negatively and significantly related to education, LEV, and their outside director indicator. Other variables are non-significant.
Knop and Mertens (2010)	1. log of salary 2. log of variable pay (consists of short-term pay (the annual bonus) and the long-term pay) 3. log of total compensation	1. Blockholder ownership 2. Anti-takeover measures 3. CEO ownership 4. Management Board members ownership 5. Board ownership including chairman 6. Board size 7. Board independence 8. Board tenure	A sample of 75 of the largest Dutch firms for the period 2006-2008	OLS Regression	1. Independent supervisory board members, and blockholders, management, board ownership are negatively related to the level of compensation 2. Board size is positively related to the level of compensation. CEO ownership and tenure are non-significantly associated to the CEO total compensation. 3. Outside blockholders, anti-takeover, management and board members ownership are inversely related to base salary. However, CEO tenure is positively associated with base salary. 4. CEO ownership and larger supervisory boards are associated with higher CEO equity-based compensation. However, outside blockholders and the type of largest outside blockholders do not have a significant impact on the level of CEO equity-based compensation
Allen (1981)	1. CEO cash compensation 2. CEO total remuneration 3. CEO aggregate income	1. Management control 2. Family control 3. Joint family control 4. Indirect family control	A sample of 218 largest industrial US firms for the period 1975 to 1976	OLS Regression	Generally, the results confirm the hypothesis that the compensation received by a CEO is directly related to his power within the firm. A major exception to this pattern involves CEOs who are also principal stockholders in their firms and receive dividend income from their stock.

Study	Dependent Variable(s)	Independent Variable(s)	Sample characteristics	Analysis Technique	Main Findings
Cyert et al. (2002)	1.Salary 2.Equity-based compensation	1. Firm size 2. Firm performance 3. Largest ownership, non-CEO 4. Largest ownership, CEO 5. CEO's ownership 6. Compensation committee's ownership 7. Default risk 8. Financial leverage 9. Growth opportunity	A sample of 1,648 US firms for the period 1992-1993	OLS Regression	1. Equity-based compensation is negatively related to the largest shareholder's ownership, compensation committee's ownership, default risk, leverage. CEO duality, firm size, growth opportunities, while the presence of external blockholders is positively and significantly correlated with equity-based compensation. 2. Only CEO's ownership is found to have a positive and significant relationship. However, other variables have no role in determining the CEO salary.
Mangel and Singh (1993)	CEO cash compensation	1. CEO tenure 2. Percentage of outside directors 3. Director compensation 4. External ownership 5. Institutional ownership 6. Director ownership: a. Total percentage owned by officers and directors b. The percentage of equity owned by external directors 7. CEO ownership	A sample of 100 large US firms in 1988	OLS Regression	CEO cash compensation is found to be significantly and positively associated with his/her tenure, and firm size and performance. On the other hand, institutional and total board ownership are found to strongly decrease cash compensation. Finally, the percentage of outside directors and the board member compensation plays no role in determining the level of CEO compensation.
Lee (2009)	CEO equity-based compensation	1. Financial performance: 2. Ownership concentration 3. Largest shareholder 4. Top 20 shareholders 5. Board independence 6. Independent directors on remuneration committee 7. Non-executive directors on remuneration committee 8. CEO duality 9. Directors ownership	A sample of 66 Australian and 84 Singaporean firms for the period 2001 to 2003	OLS Regression	1. For Australian improving companies, there is no significant relationship between CEO performance-based payment and the improvement in firm performance, nor in board structure. However, the proportion of performance pay is significantly and positively associated with total revenue 2. With respect to Singaporean improving companies, the only significant and positive variables are total revenue and CEO change (with a negative coefficient). Other board and performance variables are not statistically significant.
Daily et al. (1998)	1. Non-contingent pay 2. Log contingent pay 3. The combination of non-contingent and contingent pay	1. Affiliated directors 2. Interdependent directors 3. The proportion of CEOs serving on a compensation committee	A random sample of 200 publicly traded firms in 1992	Structural equation modelling	The researchers found no evidence that "captured" directors led to greater levels of, or changes in, CEO compensation. These findings may suggest the consideration of theories other than agency theory as an explanation for the continued focus on board independence.
Anderson and Bizjak (2000)	1. Salary 2. Bonus 3. Fixed portion of total compensation 4.ESOs 5. Full option portfolio levels 6. Option sensitivity	1. The fraction of outside directors on the committee 2. Outside executives sitting on compensation committees 3. The presence of the CEO on their own CCs	A random sample of 75 NYSE firms between 1985 and 1994	Fixed Effects Regressions	Salary and bonus pay is negatively related and the value of new option grants is positively related to the fraction of outside directors on the compensation committee. Pay-for-performance sensitivities indicate that CEO option pay is more sensitive to firm performance as the fraction of outside directors increases. They did not find evidence that the fraction of outside executives grant higher levels of pay. CEOs serving on their own CCs do not earn higher levels of salary or bonus. New grant levels, full option portfolio levels, and option sensitivity (new and full) are significantly lower as compared to CEOs that do not serve on the CC.

Study	Dependent Variable(s)	Independent Variable(s)	Sample characteristics	Analysis Technique	Main Findings
Conyon and He (2004)	1. Total CEO compensation 2. Total CEO equity incentives	1. The proportion of venture capitalists on the compensation committee 2. Committee member pay 3. Inside directors 4. CEO directors 5. Committee member diversity	A sample of 455 US firms in 1998, 1999, and 2000	OLS Regression & Robust Regression Technique	1. Significant and negative associations are found between the strength of CEO incentives and the proportion of venture capitalists on the compensation committee 2. The presence of significant shareholders on the compensation committee is associated with lower CEO compensation and higher CEO equity-based compensation 3. The level of CEO compensation is significantly and positively related to those of compensation committee members 4. The proportions of insiders, CEOs from other firms on the compensation committee, and diversified committees, are non-significantly associated with CEO compensation.
Newman and Mozes (1999)	1. Salary 2. Bonus 3. Other annual compensation 4. Restricted stock awards 5. Long-term pay 6. Stock options 7. Total compensation	1. An insider-influenced firm 2. An outsider-influenced firm	A sample of 161 US firms in 1992	OLS Regression	No differences are found in CEO compensation between insider-influenced firms and outsider-influenced firms
Sun and Cahan (2009)	CEO cash compensation	1.ROE 2. Composite Measure of compensation committee quality: a. CEO Appointed Directors b. Senior Directors c. CEO Directors d. Director Shareholdings e. Additional Directorships f. Committee Size 3. Growth opportunities (log of M2B) 4. Loss-making dummy	A sample of 825 US firms for 2001	OLS Regression	1. CEO cash compensation is more positively associated with accounting earnings for firms with high compensation committee governance quality than for firms with low compensation committee governance quality. 2. CEO cash compensation is significantly positively associated with accounting performance and market performance 3. CEO cash compensation is more positively associated with accounting earnings for firms with a lower proportion of directors appointed during the tenure of the incumbent CEO, a higher proportion of senior directors sitting on compensation committees, a high proportion of directors on the compensation committee who are CEOs of other firms, a high proportion of directors with three or more additional directorships sitting on compensation committees 4. No significant effect of director ownership on the compensation committee on the association between CEO cash compensation and accounting earnings
Bonet and Conyon (2005)	1. Total compensation 2. Option exercised 3. Total compensation	The proportion of insiders in the RC	A sample of 504 UK firms for 2001	OLS Regression	1. Insider influenced compensation committees are associated with higher executive compensation. 2. Insider-dominated committees do not seem to influence the structure of the compensation awarded to the director but seem to affect the level of compensation.
Vafeas (2003)	1. CEO cash compensation 2. CEO long-term pay 3. Total CEO compensation	The presence of insiders on the compensation committee	A sample of 271 US firms between 1991 and 1997	Fixed effects regression	1. No difference in the level of CEO pay and the sensitivity of pay to performance between firms with committee insiders and all others 2. After the reforms, the pay-for-performance relation for such firms improves, and the mix of fixed to variable pay declines, becoming more similar to pay practices in other firm
O'Reilly et al. (1988)	CEO cash compensation	1. The number of outside directors 2. Salary levels for board and committee members 3. CEOs of other firms on the RC	A sample of 105 US firms for 1984		1. Salary levels of outside directors, both those on the board and on the compensation committee, are associated with CEO compensation. 2. CEO compensation is greater when CEOs from other firms sit on the firm's compensation committee

Study	Dependent Variable(s)	Independent Variable(s)	Sample characteristics	Analysis Technique	Main Findings
Conyon et al. (2009)	1. Total CEO compensation 2. Percentage of equity pay mix	1. The use of a compensation consultant 2. Supply other business to the firm	A sample of 229 UK firms for 2003 and 308 US firms for 2006	OLS Regression	The USA findings: 1. There is a positive and significant association between CEO pay and the use of compensation consultants 2. The CEO equity pay mix (the ratio of equity compensation to total pay) is greater in firms using consultants 3. There is little evidence that consultants with potential conflicts of interests are associated with greater pay for their CEO clients; that is, the indicator variable for the consultants Frederic W. Cook and Pearl Meyer is not significant The UK findings: 4. No relationship is found between CEO pay and the use of a compensation consultant 5. There is a positive correlation between the fraction of equity in total CEO pay and the presence of a consultant 6. No relationship is found between conflicted consultants and either the level or design of CEO pay in the models
Murphy and Sandino (2010)	CEO total compensation	1. A dummy variable indicating whether the consultant provides any other services 2. A count of how many other services are provided 3. A dummy variables for four specific categories of services. 4. A dummy variable whether the consultant work exclusively for the remuneration committee	A sample of 1032 US firms for 2006	OLS Regression & propensity scoring methods	1. The researchers found that firms with remuneration consultants provide other services in addition to remuneration consulting is "marginally" and positively associated to the level of CEO compensation 2. They found that CEOs receive higher levels of compensation if the remuneration consultant works exclusively for the board or the remuneration committee
Cadman et al. (2010)	1. CEO salary 2. CEO bonus 3. CEO stock and option grants 4. CEO total compensation	1. Client firms who affirmatively disclose that compensation consultant provides non-EC services 2. Firms that are not clients of Frederic W. Cook or Pearl Meyer, large consultants that focus exclusively on executive compensation services and thus do not have cross-selling incentives 3. Firms that hire their auditor for significant non-audit services.	A sample of 755 US firms for 2006	OLS Regression and Hurber-White robust standard errors	The researchers found no evidence that clients of potentially conflicted consultants provide higher salaries, bonus, or equity compensation
Minhat (2008)	CEO compensation	1. The number of pay consultants 2. The market share of consultants	A sample of 175 UK firms in the 2003-2006 period	OLS Regression & Random Effect Regression	1. Market share is positively related to the client firm's CEO compensation level 2. There is ia non-significant relationship between the use of multiple pay consultants and CEO compensation.

Study	Dependent Variable(s)	Independent Variable(s)	Sample characteristics	Analysis Technique	Main Findings
Armstrong et al. (2010)	CEO total compensation	1. The use of remuneration consultants 2. Firms that are not clients of Frederic W. Cook or Pearl Meyer, large consultants that focus exclusively on executive compensation services and thus do not have cross-selling incentives	A sample of 2,116 US firms in the fiscal year 2006	OLS Regression and propensity scoring methods	1. The researchers found that the excessive CEO compensation in firms uses consultants is more likely to be driven by governance differences rather than by the use of remuneration consultants. 2. The researchers found no relationship between their empirical measure of conflicted consultant and the level of CEO total compensation.
Conyon et al. (2011)	The use of remuneration consultants	Firm size and CEO equity mix pay	A sample of 232 UK firms in 2003	Probit technique	Firm size and equity pay mix is positively related to the use of remuneration consultants
	CEO total compensation	Providing other services to the client firm		OLS Regression	They found some evidence for the managerial power theory when they noted that the level CEO compensation is greater in firms with conflicted remuneration consultants. However, this result is not robust to alternative specifications.
Voulgaris et al. (2010)	The level and the structure of CEO compensation	The use of remuneration consultants	A sample of 500 UK firms in 2006	OLS Regression and 2SLS technique	1. They found the existence of a remuneration consultant is positively and significantly associated with the level of CEO compensation. 2. They noted that the use of external consultants is negatively and significantly related to the proportion of salary and positively and significantly associated with the proportion of equity-based compensation.
	The use of remuneration consultants	CEO ownership and tenure			No relationship was found between the proxies of CEO power and the use of remuneration consultants
Goh and Gupta (2010)	The level and the structure of CEO compensation	1. The switch of remuneration consultants 2. The increase in the number of consultants 3. The decrease in the number of consultants	A sample of 1,878 observations over the period 2002-2008	OLS Regression	1. They found CEOs and executives of firms which change their main consultants receive more fixed and less equity-based compensation in the year of the switch. 2. They found no relationship between the change in the composition of the firm's portfolio of consultants and the decrease or increase in the number of consultants.

Chapter Four

Research Methodology and Modelling

4.1 Introduction

After shedding light on the theoretical framework of this research, and highlighting the most relevant theories and empirical studies, this chapter aims at developing hypotheses and describing the rationale for the selection of the variables. It provides a comprehensive explanation of the hypotheses development, the measurement of variables and the methods that will be used in collecting the data. Furthermore, it provides an econometric description of the statistical approaches which will be applied in preparing the data for analytical purposes in order to look for the possibility of a correlation between the variables of CEO compensation, the selected corporate governance, ownership and remuneration consultant.

After outlining the philosophical and theoretical perspectives of the study in the first section, the chosen measures and proxies of the study's dependent variable will be presented and justified. A detailed discussion is provided about the development of each hypothesis in terms of the measurement of each independent and control variable in the second section. This study categorises the independent variables into four main categories; namely, board composition, remuneration committee composition, ownership structure and remuneration consultant's characteristics.

Section 4.3 illustrates the two main models that are employed by this study to investigate the respective impacts that corporate governance and remuneration consultants have on the level and structure of CEO compensation. Section 4.4 discusses the sources of the data, which are used for the analysis, and the sample selection criteria. Also, the statistical methods that are employed in this study will be investigated in this section, together with the diagnostic analysis of parametric assumptions for each model to determine their suitability and relevance. This section ends with a consideration of the selected estimation methods and the statistical justifications for this selection. Finally, an overall summary of the chapter is provided at the end. The findings of the analyses of the first model will be presented and discussed in the following chapter, whereas the second model's results will be provided in the sixth chapter.

4.2 Research Philosophy

Conducting valid research involves correctly and rationally ordering some crucial steps and procedures. Each step provides different sets of options and the choice of each option needs to be

justified in terms of the research's objectives, nature and characteristics. Accordingly, Saunders et al. (2007) suggested that these research procedures can be seen as layers of a research onion. These layers include research philosophies, approaches, strategies, time horizons and data collection methods. Among others, an important step is to select a relevant research philosophy and justify the rationale for such a selection. Therefore, this section discusses the chosen research philosophy which relates to the development of knowledge and the nature of this knowledge, whereas other research steps and procedures will be critically explored in the following sections.

Deciding upon the relevant research philosophy is dependent on the ontological, epistemological and methodological assumptions of the research. Ontology is defined as "…claims and assumptions that are made about the nature of social reality, what exists, what it looks like, what units make it up and how these units interact with each other. In short, ontological assumptions are concerned with what we believe constitutes social reality" (Blaikie, 2000, p.8). Therefore, answering the question about the nature of the research's social, political and economical reality will help in determining the ontological position of the research and the researcher (Marsh and Stoker, 2002). Depending on the researcher's philosophical thinking, there are two opposing ontological positions which assist in classifying the ontological perspectives of researchers; namely, objectivism and subjectivism (Burrell and Morgan, 1979; Weber, 2003).

Objective researchers look at social phenomena as external facts that cannot be influenced and are made of real and factual features, whereas, conversely, the subjectivists assume that "…social phenomena and categories are not only produced through social interaction but they are in a constant state of revision" (Bryman, 2001, p.18). Accordingly, in contrast to subjective views, objectivists or realists believe that social phenomena are independent in nature and exist autonomously of an individual's appreciation of them (Burrell and Morgan, 1979).

The second assumption, i.e. epistemology, is about what constitutes acceptable knowledge; the nature, method, and grounds of knowledge (OED, 2004; Abdel-Fatah, 2008). Epistemology is defined as "…the possible ways of gaining knowledge of social reality, whatever it is understood to be" (Blaikie, 2000, p.8). Thus, under this definition, the epistemological assumption is suggested to be the technical term for the theory of knowledge (Marsh and Stoker, 2002; Iskander, 2008). Research philosophy has two paradigms or epistemological positions; these are positivism and interpretivism (or anti-positivism) (Hussey and Hussey, 1997; Patton, 1990).

Positivism can be described as "…working with an observable social reality and that the end product of such research can be law-like generalisations similar to those produced by the physical and

natural scientists" (Remenyi et al., 1998, p.32). In these terms, the primary objective of theories is to build testable hypotheses and hence test and develop theories. This requires the researcher to employ a well-structured research methodology and techniques to avoid replication (Gill and Johnson, 2002; Bryman and Bell, 2003). Accordingly, the findings of the hypotheses testing (i.e. confirming or rejecting hypotheses) are predicted to contribute to the development of examined theories (Saunders et al., 2003). On the other hand, interpretivists argue that reality is subjective and dependent on observers since they are considered to be a part of the observed phenomenon (Patton, 1990).

When reviewing the research approaches, Saunders et al. (2003) suggest that there are two extreme research approaches that are used by researchers; namely, deductive and inductive approaches. While deductive research relates to hypothesising relationships according to an existing theory or a set of theories before testing these hypotheses by collecting and analysing data, the inductive approach is applied when data is collected and analysed first, and a theory is developed to rationalise the findings of the data analysis. Therefore, the deductive research tries to proactively test existing theories, whereas the inductive one attempts to reactively build or create theories.

Ticehurst and Veal (1999) suggest that positivist researchers prefer the deductive approach, more so than interpretivist researchers. Therefore, this research employs a deductive approach as a methodological position since it involves explanatory research that relies on previous literature on the role of corporate governance and remuneration consultants in setting CEO compensation. Previous theoretical and empirical work provides a solid background for the topic under consideration, which enables the researcher to develop a set of hypotheses and test existing theories.

The argument made by this research is mainly based on agency theory and other perspectives which are categorized as a part of positive accounting theory (Iskander, 2008). Ontologically, such research is believed to adopt an objective position. That is, researchers relying on positive accounting theory in studying phenomena believe that the reality is objective and independent of any human effects. Consistently, positivism is epistemologically considered to be the fundamental concept which underpins positive accounting theory (Keat and Urry, 1975) where observers are not influenced by, or do not influence, the observed social phenomenon.

Therefore, according to the objectivist ontological and positivist epistemological positions of this research, applying a hypothetic-deductive methodology seems to be relevant. This methodology begins with investigating the causal relationships between specific variables under a theoretical

explanation, followed by the development of a hypothesis or a set of hypotheses. Then the required data is collected and analysed. The implications of the data analysis's findings are then used to confirm or refute the proposed hypotheses which lead to testing and developing the chosen theory. Therefore, this methodology implies that collecting and analysing data without having developed hypotheses is a misleading approach.

Another methodological challenge is the decision with regard to selecting a quantitative or a qualitative research approach. However, determining the suitable ontological position is believed to help in choosing the appropriate approach. That is, it is suggested that quantitative approaches consider objectivity as an important pre-condition for this sort of research, whereas qualitative approaches assume that objectivity is not possible and thus subjectivity is preferred for this type of research (Iskander, 2008). Accordingly, as this research philosophy is based on an objectivist ontological position, using a quantitative research approach is appropriate and suitable for examining the research hypotheses and theories. Moreover, using a quantitative research approach makes the researcher remain separate from his/her data in order to satisfy the positivist epistemological position. Therefore, this research adopts a quantitative approach since it is more relevant to this type of research and to the researcher's philosophical way of thinking.

According to Clarke (2004) and a survey of the corporate governance literature, there are three main methods that are employed in corporate governance studies. These methods are questionnaires, interviews, and data base surveys. However, there is a scarcity of studies that employ qualitative methods. This lack of qualitative research might be due to the objectivity of the research in corporate governance and/or might be because of the difficulty of collecting such confidential data about the performance of internal governance structures, which makes it harder for researchers to gain and evaluate the appropriate information on how the governance structure enhances corporate governance quality. As a result, the most suitable methodology available to positivist researchers is that of data base surveys (Habbash, 2010), which is employed in this research. Another essential step is the selection of an appropriate research paradigm. A research paradigm is a direction for investigating a phenomenon from which explanations can be obtained (Saundres et al., 2003), and is based on the ontological and epistemological positions adopted. Burrell and Morgan (1979) emphasised the importance of determining the relevant research paradigm in helping the researcher to clarify his/her assumptions and providing a clear understanding of the way in which the researcher classifies and approaches his/her research. They suggest that there are four main research paradigms that can be arranged to correspond to four dimensions as demonstrated by the following Figure:

Figure 4.1 Paradigms for the Analysis of Social Sciences

Radical Change

Radical Humanist	Radical Structuralist
Interpretivist	Functionalist

Subjectivist　　　　　　　　　　　　　　　　　　　**Objectivist**

Regulation
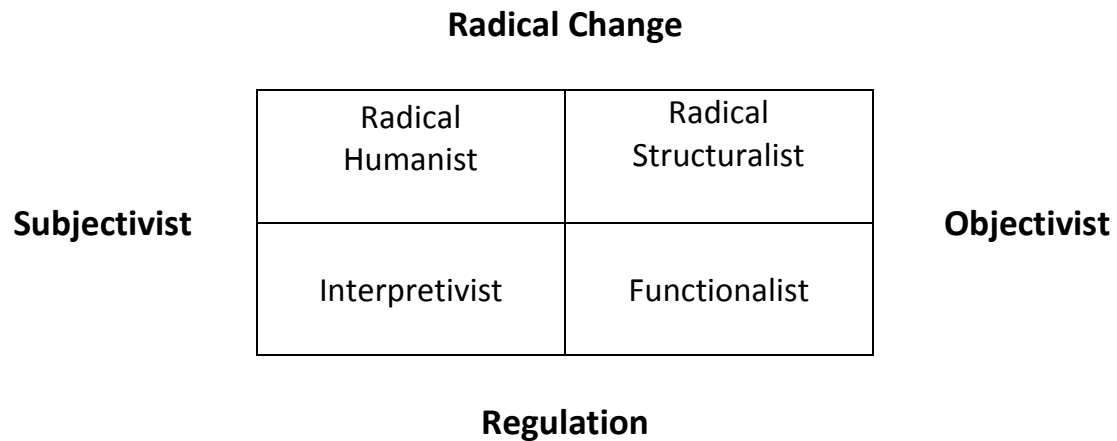
Source: Burrell and Morgan (1979)

As shown in the Figure, there are four main research paradigms; namely radical humanist, radical structuralist, interpretivist, and functionalist. These paradigms are classified under four philosophical dimensions: subjectivist, objectivist, the sociology of radical change and the sociology of regulation. The functionalist paradigm suggests that organisations are rational entities, in which logical understanding and explanations leads to logical solutions to social problems (Iskander, 2008). Consistent with this philosophical thinking, Burrell and Morgan (1979) state that this paradigm "…is often problem-oriented in approach, concerned to provide practical solutions to practical problems" (p.26). According to the Figure and this theoretical explanation, the ontological position that fits with this paradigm is an objectivist one. Therefore, the suitable paradigm that fits with the nature of the data of this research and the philosophical thinking of the researcher is functionalist.

In conclusion, this research adopts objectivist ontological and positivist epistemological positions, since it is deemed to be neo-empirical research. Accordingly, a hypothetic-deductive methodology is selected as it fits well with developing the research theories through testing a set of hypotheses. As a result of these philosophical and methodological positions, a quantitative research approach is found to be relevant in examining the research hypotheses. Finally, this research uses the survey methodology in collecting data based on five time horizons, longitudinal/panel data, through secondary data. The following figure represents and summarises the philosophical positions and models of the research:

Figure 4.2 Research Philosophy and Models
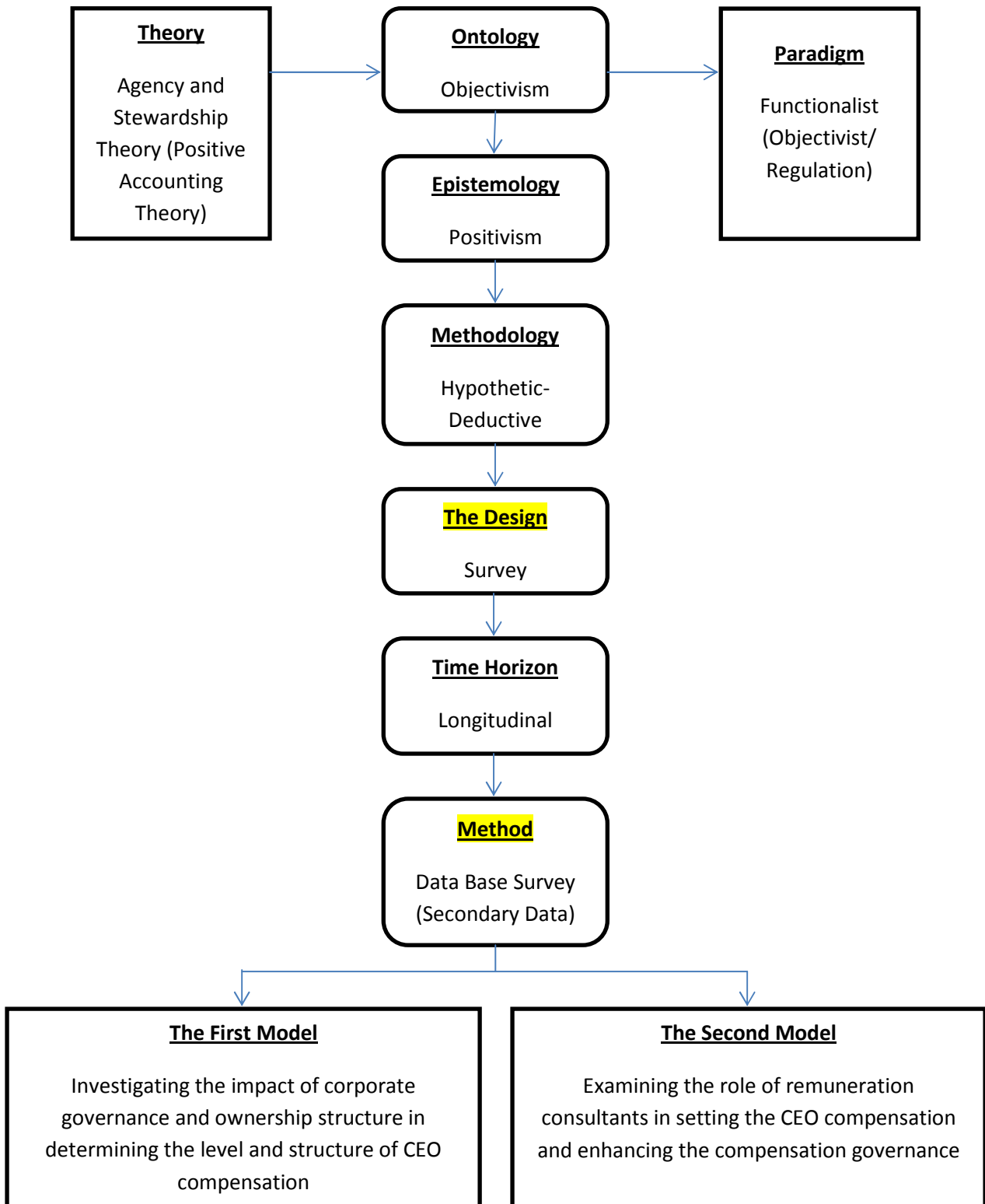
Source: the idea of the Figure is taken from Iskander (2008) and modified by the researcher.

4.3 Variables Measurements and Hypotheses Development

4.3.1 Measurements of the Dependant Variable (CEO Compensation)

Two of the most challenging issues in executive compensation literature are identifying the fundamental nature of the components and measuring the different compensation elements that comprise the total compensation package. The terminologies that are used in identifying compensation components are not always consistent, which results in yet more difficulty when classifying and measuring them. For example, some firms use the term "short-term incentive" while others use "bonus", also while "Long Term Incentive Plans-LTIPs" is a common term in some companies, others refer to the same type as "Performance Share Plan-PSP". Moreover, the term "long term incentive" is frequently used to indicate any type of compensation that is awarded over a time period of more than a year and may include all forms of long-term compensation (e.g. stock options, LTIPs, PSP, deferred bonuses.. etc.), which may be even more confusing. Table 4.1 describes the various components of remuneration and the terminology that are used in the literature and in industry.

In order to facilitate fair comparison with previous results and to discuss any theoretical implications, this study will try to follow the previous literature in identifying, classifying and measuring the different compensation components. Furthermore, as the main purpose of this research is to test for the existence of relationships between CEO compensation, corporate governance attributes and remuneration consultants, extensively investigating or discussing the different measurements of compensation components is beyond the scope of this study.

In investigating the effects and the implications of executive compensation empirically and theoretically, previous studies have generally tended to differentiate between the different compensation elements according to the nature of each component and/or by the time-horizon of any award. In other words, researchers usually classify executive remuneration into cash or short term compensation and non-cash or long term compensation in order, for example, to empirically examine how internal governance may affect the composition of compensation or the nature of executive pay components, or in turn how the nature of compensation may affect management behaviour and the firm performance.

4.3.1.1 Cash Compensation

One of the well-known measures of CEO remuneration in the literature is cash compensation. This is the pay that is awarded by the firm and received by the CEO during the fiscal year. Some studies define this measure as the sum of all cash components that are received by the CEO during the year, i.e. salary, bonuses, benefits, allowances, etc., (e.g. O'Reilly et al., 1988; Eriksson, 1999; Conyon et

al., 2001; Gregg et al., 2005; Eichholtz et al., 2008). However, others include only salary and bonus (e.g. Mangel and Singh, 1993; Lambert et al., 1993; Conyon, 1997; Core, 1999; Ozkan, 2007b) and exclude other elements of cash compensation. Compared with non-cash or equity-based compensation, cash compensation components do not include complex measures and are usually detailed directly in the firms' annual reports.

Table 4.1 Executive Compensation Terminology	
Terminology	**Alternatives**
Salary	(1) Base pay (2) Basic pay
Bonus	(1) Annual performance bonus (2) Short-term incentives
Long-Term Incentive Plans (LTIPs)	(1) Performance share plan (PSP) (2) Performance Share Award (PSA) (3) Executive Incentive Plan (4) Share Matching Plan (5) Restricted share plan (6) Conditional Shares
Executive share options (ESOs)	(1) Stock options (2) Share options (3) Performance options (4) Transformation Incentive Plan– Option award
Benefits	(1) Benefits in kind (2) Perquisites (3) Allowances
Pension	(1) Retirement plan
Deferred bonus	(1) Deferred Share Scheme (2) Deferred annual bonus share awards (3) Short term deferred incentive plan (4) Annual incentive bonus plan-deferred shares (5) deferred element of the annual bonus

Source: Own construction

This research follows previous studies that include all cash compensation elements which are reported in the annual reports. Three main variables will be used to investigate the effect of the independent variables on each component or category of cash compensation; namely, salary, bonus and total cash compensation. Salary and bonus are as reported in the remuneration report for the fiscal year. Total cash compensation is defined as the sum of salary, bonus and all other reported

cash compensation (e.g. benefits, allowances, perquisites, etc.) that are received by the CEO during the year.

4.3.1.2 Long- Term Compensation

Most of the earlier studies in the '70s and '80s included only the cash compensation components as a result of the prevalent corporate preference for restrained disclosure at that time married with limited minimum disclosure requirements. Some researchers argue that cash compensation is found to be a sufficient proxy for the total compensation that is received by executives (e.g. Lewellen and Huntsman, 1970; Boyd, 1994). Whilst this argument was acceptable at that time, as the long-term compensation elements were relatively fewer. During the last two decades regulatory bodies and numerous reform actions have encouraged firms to increase equity-based compensation and decrease the fixed elements in order to align executives' interests with those of shareholders.

Consequently, long-term compensation has become more important and widespread so, in the modern environment, using only cash compensation as a proxy for total compensation has become therefore an ineffective proxy. Later studies excluded the long-term elements due to the difficulties in collecting and measuring this type of compensation (e.g. Conyon, 1997; Benito and Conyon, 1999; Johnston, 2002; Gregg et al. 2005; Basu et al., 2007; Johnson, 2007; Girma et al. 2007). However, it is argued that one of the reasons for identifying only a small correlation between CEO compensation and firm performance is due to the fact that the majority of studies historically excluded the long-term compensation components (Farmer, 2008).

Valuations of long term compensation vary among the previous studies. Some researchers differentiated between the effects of different equity-based compensation components such as stock options and LTIPs (e.g. Mehran, 1995; Ozkan, 2007a) while others examined the effect of total long term compensation or total compensation as one variable (e.g. Allen, 1981; Cyert et al., 2002; Ozkan, 2007b; Knop and Mertens, 2010; Conyon et al., 2009; Murphy and Sandino, 2010). Following the former direction, three main long term compensation elements will be used in this research to investigate the impact of the nature of each component; namely Long-Term Incentive Plans (LTIPs), Executive Stock Options (ESOs) and total long term compensation - which is defined as the sum of LTIPs, ESOs, and other long term compensation.

Long-Term Incentive Plans (LTIPs)

In the UK, Long-Term Incentive Plans are typically linked to measures of firm performance and are usually conditional on an increase in Earnings per Share (EPS) and/or Total Shareholder Return (TSR). Therefore, the first group of mainstream researchers took these performance conditions into

account by discounting this type of award in order to ascertain pre-award performance criteria. Studies that follow this direction measure this element and discount it by 20% to reflect a firm's performance contingent (e.g. Conyon and Murphy, 2000; Conyon et al., 2001; Stathopoulos et al., 2005; Ozkan, 2007). However, other studies assume that firms or pay-institutions design this component and set performance conditions equal to their performance expectations and thus measure LTIPs using the face value of the restricted performance shares at the grant date (e.g. Core et al., 1999; Eichholtz et al., 2008). Core et al. (1999) argued that if a CEO gains the award of this component if he meets the performance targets, the predicted value of this plan should be measured by the share price on the grant date. Also, they suggest that this assumption is in line with institutional procedures. Moreover, in their study of annual bonuses, Merchant and Manzoni (1989) found empirical evidence which supports this possibility.

This study will follow the latter approach in measuring Long-Term Incentive Plans by utilising the face value of the plan according to the share price on the date of the award, as this direction is methodologically more reasonable and logical. Furthermore, the discount percentage that has been used by the studies that follow the first approach has not been justified or explained, either theoretically or methodologically. However, in order to check the sensitivity of the results to different LTIP measures, this study will bring contingent performance into account in a further analysis.

Executive Stock Options (ESOs)

Measurements of ESOs are more sophisticated than that of other components, as they require a combination of microeconomic and macroeconomic inputs to apply the different pricing formulae. Also, each valuation method is expected to result in different outputs which therefore affect the interpretation of the findings (Core et al., 1999). A large number of pieces of research use the well-known Black-Scholes (1973) pricing methodology to measure new grants of ESOs (e.g. Brick et al., 2006; Ozkan, 2007a; Fahlenbrach, 2009; Conyon et al., 2009). This commonly adopted measure in previous studies was modified by Merton (1973) to include continuously paid dividends.

Another direction used by academics and businesses alike uses a binomial pricing model that was proposed by Cox et al. (1979). However, as Black-Scholes was initially proposed for pricing European options, this pricing model is more suitable for American method options, as it was designed to allow for the potential of the options to exercise prior to their expected maturity. Finally, a methodological alternative simply uses a less complicated method of measuring stock options at 25% of the exercise price. Researchers using this pricing methodology assume that other

complicated option pricing formulae (e.g. Black-Scholes or the binomial pricing model) typically lead to results in and around this 25% figure (e.g. Lambert et al., 1993; Henderson and Frederickson, 1996; Core et al., 1999).

For valuing the expected stock options, this study will use the most common options pricing model in the literature which is the Black-Scholes-Merton formula for European call options. Therefore, the stock option value in the Black-Scholes (1973) model adjusted by Merton (1973) to include dividends is as follows:

$$Stock\ Options'Value = Pe^{-In(1+d)T}\ N\ (z) -\ Xe^{-\ In(1+r)T}\ N\ (z - \sigma\sqrt{T})$$

where:

- P = share price at the grant date.
- X = strike price.
- T = time remaining until expiration.
- d = dividends yields.
- σ = share price volatility.
- r = risk-free rate.

In the formula, consistent with Murphy (2002) and Ozkan (2007a), volatility is measured as the standard deviation of monthly stock return over the last 48 months, multiplied by the root square of 12 (12 months). Dividend yield or the dividend-price ratio, which is calculated as the dividend per share divided by the price per share, is as computed and provided by DataStream. Finally, the risk free rate is defined as the average yield on 10-year UK interest rates.

4.3.1.3 Total Compensation

Total compensation is simply the combined sum of cash compensation (i.e. salary, bonuses, benefits, allowances, and other cash compensation) and equity-based compensation (LTIPs, ESOs, and other long-term incentives). Farmer (2008) suggested that the valuations of total remuneration are often dependent on data sources. In other words, sources of data might affect the flexibility of data in accomplishing the purpose of the research, or of extending the analysis to examine different hypotheses. For example, while manually collecting data directly from annual reports gives the researcher more options when it comes to using different measuring techniques and applying different analytical methods, data that is collected from databases restricts the researcher's ability in terms of using different measures and/or modifying his/her models. Therefore, as all compensation data that is used in this research is hand-collected, this study has a high degree of flexibility in

measuring the CEO compensation components and thus the total compensation for the purpose of the main analysis and the sensitivity analyses.

4.3.2 Development of Hypotheses and Measurement of the Independent Variables

This section provides a detailed discussion of the development of each hypothesis, together with the measurement of each independent variable. The attributes are classified into four groups, each including individual variables which describe specific attributes related to the composition of boards of directors, remuneration committees, ownership and remuneration consultants' characteristics. The individual variables for each of these groups are discussed below.

4.3.2.1 Board Composition

Due to the separation of ownership from control, it is costly for shareholders to involve themselves in controlling and monitoring management. Therefore, they delegate their decision control rights to elected directors for them to supervise and monitor top management on their behalf (Fama and Jensen, 1983). The board of directors is considered to be the main internal control mechanism that prevents or limits opportunistic managerial behavioiur (Donaldson and Davis, 1991). Practically, the directors who comprise the board of directors have the right to ratify and monitor important decisions by management, along with selecting rewards for them (Alchian and Demsetz, 1972). Although the shareholders incur some agency costs by establishing a board of directors, they expect benefits that are greater than the agency costs, because they utilise valuable knowledge in the decision process, which helps in mitigating the agency problems that are generated from the diffusion (Fame and Jensen, 1983).

As the heart of the internal control structure, the board of directors is responsible for monitoring and evaluating management performance on behalf of shareholders. Shareholders elect the board of directors then delegate their decisions to them. One of the most important decisions delegated to the board of directors is that of determining the level and structure of managerial compensation (Fama and Jensen, 1983; Hermalin and Weisbach, 2003; Murphy, 1999). Recently, the main focus of the executive compensation literature has been on the factors that determine the level and the structure of this compensation. Given its importance to the labour market as a major determinant of the level and structure of compensation arrangements (Rosen, 1990; Himmelberg and Hubbard, 2000; Hubbard, 2005; Gabaix and Landier, 2008), the delegation mechanism is predicted to play a crucial role in setting executive remuneration (Chhaochharia and Grinstein, 2009). Therefore, due to the differences in the composition and characteristics of boards of directors, a divergence between the board's decisions and the labour market standards could exist (Fama, 1980; Fama and Jensen,

1983; Jensen, 1993; Hall and Murphy, 2003; Bebchuk and Fried, 2003; Chhaochharia and Grinstein, 2009).

Agency theory and the optimal contracting perspective argue that the board of directors plays a significant role in monitoring top management and increasing pay-performance sensitivity (Jensen, 1993). However, because of managerial power over the board of directors, such as in selecting and removing external directors, it is assumed that boards might be ineffective in designing suitable levels and structures of managerial compensation (Crystal, 1991). Jensen (1993) suggests that the ineffectiveness of boards of directors in monitoring and incentivising managers is due to a business culture that deters conflict between managers and external directors.

In order to increase the effectiveness of the board of directors, the UK Corporate Governance Code (2003) emphasises the importance of the board's composition and characteristics. The Code requires that at least half of a firm's board should be independent directors, excluding the chairman. Also, it stresses the importance of the separation of the CEO and chairman positions, by requiring a clear separation between the individuals who occupy these positions and an obvious division of responsibilities between them. The Code also indicates the board size by demanding that firms should limit the board size so that it is not so large as to be unwieldy.

However, while the proportion of non-executive directors does not accurately reflect the independence of the board and the theoretical requirements in terms of directors' independence, previous studies have mainly relied on this measure as a proxy for board independence. In order to alleviate this limitation of the literature, this research will measure the board's independence by examining the independent status of each director on the board according to the Code's criteria. Also, while no other research has examined the impact of the chairman's independence on CEO compensation, this study will investigate the impact of a chairman's independent status on appointment, as required by the Code, in determining CEO compensation.

4.3.2.1.1 Board Size

Besides other board characteristics, board size is assumed to play a role in the effectiveness of the board of directors in monitoring the agent, and thus to affect indirectly the quality of governance (Lipton and Lorsch, 1992; Jensen, 1993). Smaller boards tend to be more effective because they facilitate closer communication channels and coordination processes between the directors (Yermack, 1996; Ozkan, 2007). Lipton and Lorsch (1992) suggest that the problem of dysfunctional boards of directors increases with board size, and recommend curtailing the number of board members to ten directors, with a preferred board size of eight or nine members (Yermack, 1996).

Jensen (1993) concludes almost the same, that the board of directors is more likely to perform effectively and becomes more difficult to be influenced by the management, when the number of directors is less than seven.

Empirically, Ozkan (2007b) found that board size is an increasing function of both cash and total CEO compensation on a sample of 390 UK non-financial firms for the period 1999-2005. Also, Ozkan (2007a) documented the same correlation between board size and the different CEO compensation components (i.e. salary, bonuses, LTIPs, stock options) using another sample of UK firms.

Similarly, among others, Core et al. (1999) and Fahlenbrach (2009) found that larger boards of directors are related to higher executive compensation in US firms. Moreover, the latter found that larger boards have a significant negative impact on the CEO pay-performance relationship, which strongly supports the argument that larger boards play an inverse role in monitoring top management and weaken the internal governance structure. However, Basu et al. (2007) found little evidence that Japanese boards play a role in setting or determining CEO cash compensation.

Consistent with these findings and arguments, the UK Corporate Governance Code (2003) stresses the importance of board size by establishing that boards should not be so large as to be unwieldy. Accordingly, larger boards are assumed to weaken the internal governance structure and to have a negative effect on a board's monitoring role. Consequently, the resultant governance weakness leads to an increase in management power over the internal control mechanisms, and therefore increases managers' influence over their own compensation. Thus original hypothesis is constructed that board size affects CEO compensation.

H1: There is a positive relationship between board size and the level of CEO short-term and total compensation and a negative relationship with CEO long-term compensation.

4.3.2.1.2 Board Independence

Boards of directors are comprised of executive, non-executive and independent directors. The external directors (non-executive and independent directors) work as adjudicators with regard to any disagreements among internal directors and participate in resolving issues involving agency problems between the principal and the agent, such as firing or replacing managers and setting managerial compensation (Fama and Jensen, 1983). Agency theorists argue that independent directors play a significant role in aligning the interests of agents with those of shareholders by providing firms with appropriate monitoring, because they are assumed to have no incentive to collude with the agent. From this standpoint, the proportion of non-executive directors on the board

has been used to indicate the extent of board independence in major previous studies (see, for example, Mehran, 1995; Franks et al., 2001; Ozkan, 2007)

Given the enhanced value to their personal human capital and reputations in the market that comes with being perceived to perform their role well, Fame and Jensen (1983) suggest that external directors inherently have motivation to carry out their duties and ensure the good running of the firm, rather than to collude with management. In contrast, internal directors are thought to have less incentive to monitor and exert influence over their managers, since their jobs are tied to top management (Ozkan, 2007), and they are more likely to be loyal to such management (Pfeffer, 1981). Weisbach (1988) found that boards with a majority of external directors are more likely to fire executives as a result of their poor performance. However, Franks and Mayer (2001) found that UK non-executive directors act as advisors rather than monitors. This is consistent with the managerial power and stewardship perspectives which indicate that management tries to select external directors who they expect to aid to their management decisions rather than to strictly enforce this monitoring role (Mace, 1971).

Furthermore, since external directors often have more than one directorship in other boards of directors, they are supposed to be experts in monitoring executives and supervising the firms' activities (Fama and Jensen, 1983). This argument is in line with the findings of Coughlan and Schmidt (1985) and Hermalin and Weisbach (1988). Nevertheless, others suggest that external directors could negatively affect the internal governance when they have no high degree of interest in the firm's equity (Finkelstein and Hambrick, 1996), or may have hidden relationships with managers (e.g. Core et al., 1999).

The empirical evidence demonstrates mixed findings. For example, while Byrd and Cooperman (2010) documented a significant inverse association between total CEO compensation and the average number of external directors sitting on the board of directors, other studies (e.g. Lambert et al., 1993; Boyd, 1994; Core et al., 1999; Franks and Mayer, 2001; Ozkan, 2007) found a positive association between external members on the board and CEO compensation. However, Mangel and Singh (1993), Finkelstein and Hambrick (1989), Sapp (2008) and Wang et al. (2011) found this correlation to be non-significant on samples of US and Canadian firms.

Due to the difficulties in assessing or capturing the independent status of directors, scholars have historically used the proportion of non-executive directors as a measure of board independence. Using such a measure as a proxy for board independence is imperfect, and may not reflect the related theoretical and regulatory requirements, since such directors may have other relationships

with the company or with the management which could affect their independence and therefore their decisions. The UK Corporate Governance Code (2003) raises this issue and overcomes this problem by establishing several criteria that should be met when determining whether a director can be considered to be an independent director (Provision A.3.1). Therefore, based on the theoretical arguments above, I assume that the percentage of independent directors on board, according the Code's independence criteria, play a role in determining CEO compensation. The hypothesis to be investigated is:

H2: Board independence is a decreasing function of the level of CEO short-term and total compensation and an increasing function of the level of long-term compensation.

4.3.2.1.3 CEO-Chairman Duality

The managerial power perspective predicts that the CEO-Chairman duality decreases the board's independence and increases managerial power over control decisions, including determining the level and structure of managerial compensation. Also, agency theory assumes that CEO/chairman duality increases the agency problems by giving the CEO a chance to influence control decisions in their favour in order to maximise his/her own utilities rather than maximise the shareholders' wealth (e.g. Jensen, 1993; Boyd, 1994; Core et al., 1999). Jensen (1993) linked board effectiveness to the separation of the CEO and chairman positions. Also, Boyd (1994) suggests that the existence of role duality in a firm results in more influence over the pay-setting institution (i.e. the remuneration committee). Therefore, this perspective implies that the principal's interests can be safeguarded through the board being chaired by an external chairman and designing appropriate incentive schemes for the CEO (Williamson, 1985). This is predicted to align the interests of the agent with those of the principal (Donaldson and Davis, 1991).

However, stewardship theory assumes that CEO-chairman duality contributes to increasing the power and ability of the steward to maximise the organisation's value and thus their, and the owners', benefits without fear of being countermanded by an independent chairman. Therefore, according to this perspective, the interests of the CEO are directed to the firm's value rather than his/her personal goals (Donaldson and Davis, 1991; Davis et al., 1997).

The empirical evidence is mixed. For example, while Conyon (1997), and Conyon and Peck (1998) found no relationship between executive compensation and CEO-chairman duality in the UK, Main and Johnston (1993) found an increase of 40% of total CEO compensation when the CEO held the two positions, using a sample of 220 UK firms. The evidence from the US is consistent with the latter study. For example, Core et al. (1999), Boyd (1994), Fahlenbrach (2009) and Wang et al. (2011)

found that CEOs who chair their companies' boards received higher compensation than others who do not. Also, Brick et al. (2006) found strong evidence that CEOs who are also chairmen, are more entrenched and receive larger total compensation.

Accordingly, the CEO-chairman duality leads to an increase in the power of the CEO over the internal governance structure through several actions (e.g. appointing, re-appointing, firing, and rewarding directors) and therefore increases the influence over his/her compensation level and design. Therefore, consistent with these perspectives, I hypothesise:

H3: CEOs who are chairmen of their firms' boards receive higher short-term and total compensation and lower long-term compensation.

4.3.2.1.4 Non-Executive Directors' Pay

One of the direct signs of the strength and quality of the internal governance structure is the level of the external directors' compensation and the association between this level and that of managers. It is suggested that the notion that non-executive directors aim to enhance their reputation as decision-makers is more believable when they receive smaller payments for their directorships (Fama and Jensen, 1983). Additionally, others assume that a greater level of external directors' pay is supposed to weaken their independence and thus the quality of governance (e.g. Kosnik, 1990; Boyd, 1994).

The hypothesis of cronyism may be one of the important explanations for interpreting the positive relationship between the level of compensation received by CEOs and that of directors, where the directors and management increase their own utilities at the expense of shareholders (Brick et al., 2006). In order to justify their own compensation, well-compensated directors may have the incentive to increase managerial compensation. Therefore, the fees that are received by non-executive directors are predicted to affect CEO compensation. However, the complexity in a firm's activities and the firm size could indirectly link the CEO compensation with that of the non-executive directors. Also, as they are remunerated by shareholders for performing their duties, directors may act in the best interests of the firm in order to satisfy them.

The empirical evidence on the impact of directors' compensation on CEO compensation is sparse, especially in the UK. Brick et al. (2006) found strong support for the cronyism hypothesis when they examined the association between directors' compensation and CEO pay in a sample of 1,441 various US firms for the period 1992-2001. They concluded that CEO compensation is positively and significantly related to the directors' compensation and found that this relationship is correlated to poor firm performance. Also, Boyd (1994) found that directors' compensation has an inverse effect

on board control, when he investigated the impact of this variable on CEO cash compensation. However, Mangel and Singh (1993) found this relationship to be non-significant. Consistent with the cronyism hypothesis and these empirical findings, therefore this study hypothesises that the level of compensation received by non-executive directors' compensation has an impact on CEO compensation.

H4: There is a positive relationship between non-executive directors' pay and the level of CEO compensation.

4.3.2.1.5 Chairman Independence

Theoretically and practically, the chairman of the board has influence over all the internal control activities and decisions. The UK Corporate Governance Code (2003) states that the position of chairman of the board is critical in setting the necessary conditions for the effectiveness of the overall board and its individual members. Therefore, the importance of the characteristics of the chairman is generated from the importance of the position that he holds as the leader of the internal governance structure. Thus, since the chairman has influence over the governance's activities and decisions (e.g. setting the board agenda, the timing and the accuracy of information, communication with shareholders, setting up the board and subcommittees, appointing and/or reappointing non-executive directors, etc.), his/her interests must be aligned with those of the shareholders. However, the non-independent status of the chairman may be problematic, as his/her interests may shift towards those of the CEO and management.

Theoretically, agency theorists assume that the chairman of the board of directors must be independent of the firm's affairs in order to enable the board of directors to perform its duties and responsibilities as a monitoring device (Blackburn, 1994; Jensen, 1993). That is, a board of directors that is chaired by an independent chairman is assumed to exercise more control and discipline over the management behaviour than one which is not (Dechow et al., 1996). Therefore, shareholders of firms with independent chairmen are expected to enjoy better governance quality and fewer agency problems. In line with this theoretical argument, CEO compensation is predicted to be designed in a way that enhances the firm's value if the board of directors is chaired by an independent chairman, as s/he is expected to be likely to prevent any opportunistic managerial behaviour and to exert influence over the process of setting CEO compensation.

However, no previous study has examined the effect of the chairman's independence status on managerial compensation. Mainly, previous literature has employed the CEO-chairman duality to investigate the impact of power concentration and chairman independence on executive

compensation. Although this proxy can effectively capture the concentration of power in firms, it has shortcomings in measuring the chairman's independence since the chairman might not be independent even though he does not hold the position of CEO of the firm.

In order to overcome this methodological problem in measuring the chairman's independent status, this study applies the independent chairman criteria of the UK Corporate Governance Code (2003) to judge the chairman's independent status. The Code suggests that the chairman of the board should meet the non-executive directors' independence criteria on appointment (provision: A.3.1), but thereafter the test of independence is not appropriate in relation to the chairman (provision: A.2.2). Therefore, an indicator variable is introduced that takes the value of one if the chairman is independent on appointment, and zero otherwise. Consequently, consistent with agency theory, this study hypothesises the following hypothesis:

H5: Firms with board of directors that are chaired by an independent chairman pay their CEOs less short-term and total compensation, and more long-term compensation.

4.3.2.2 Remuneration Committee Composition

The impact of a pay-setting institution can be interpreted by the effect of the composition of this committee (as a critical part of a company's internal control mechanisms) and the characteristics of its members in terms of its functions in (1) designing the managers' contracts, (2) motivating them through financial incentives that purport to align their interests with those of the shareholders, and (3) evaluating their performance. Moreover, the pay-setting process's effectiveness increases when it achieves other goals such as consistently achieving the retention of key executives and enhancing the firm's pay policies reputation in the labour market to attract new talent (Bruce and Buck, 2005).

The three-tier agency theory can be used to explain the impact of the different committees' characteristics on setting and designing managerial compensation. The core assumption of this model is the idea that the principal delegates all or some of the control decisions (e.g. the pay setting process) to a separate supervisor (e.g. a remuneration committee). Depending on where the stronger incentive is perceived to sit, the supervisor is able to lean that way as the choice is there to act either in the shareholders' best interests or to conspire with management (Antle, 1982; Kofman and Lawarrée, 1993; Tirole, 1986; Conyon and He, 2004). Compensation arrangements, along with strong governance structures, are predicted to play a significant role in aligning the agent's-principal's interests according to agency theory (Jensen and Meckling, 1976).

Optimal contracting theory believes that owners expect managers to have objectives that do not match the shareholders' interests and thus take actions ex-ante to align their interests with those of

shareholders to ensure optimal results (Mirrlees, 1976; Holmstrom, 1979; Murphy, 1999; Gugler, 2001). Therefore, the composition of the remuneration committee is assumed to be a part of optimal contracting and, consequently, the remuneration committee designs the level and structure of managerial compensation in a way that maximises shareholder value (Gregory-Smith, 2008).

Despite the importance of the function of the remuneration committee in determining managerial compensation and evaluating their performance, the empirical evidence is both scarce and mixed. It therefore presents some clear limitations in terms of evaluating the quality of the remuneration committee in determining managerial compensation. In order to alleviate these limitations, this research employs a number of variables which reflect the committee's characteristics and which may afford a new insight capable of capturing the amount of influence the remuneration committee holds over determining the level and structure of managerial compensation.

4.3.2.2.1 Remuneration Committee Size

Theoretically, it is expected that smaller remuneration committees will have a lack of specialists and individuals able to monitor top management (Bushman et al., 2004). Managerial power theory predicts that management find smaller committees less difficult to influence (Sun and Cahan, 2009). In line with these arguments, the UK Corporate Governance Code (2003) requires boards to establish remuneration committees of at least three independent directors, implying that larger committees are assumed to enhance governance quality. However, the Code does not recommend a specific size for such a committee.

Empirical evidence by Sun and Cahan (2009) found that an increase in the remuneration committee size decreases the correlation between the CEO cash pay and the firm's accounting performance, indicating that an increase in the remuneration committee size has a negative impact on the remuneration committee quality. However, with respect to CEO compensation, and consistent with the managerial power perspective, this study suggests the following hypothesis:

H6: Remuneration committee size is an increasing function of the level of CEO short term and total compensation, and a decreasing function of the level of long-term compensation.

4.3.2.2.2 Remuneration Committee Independence

Agency theory argues that non-independent committees have the motivation to collude or protect the CEO. In contrast, independent committees, which are comprised of entirely independent directors, have an incentive to work in the best interests of the shareholders and to support more performance-based remuneration for the CEO (Vafeas, 2003).

Empirically, there have been a number of studies which examined the relationship between the remuneration committee's independence and CEO compensation. Newman and Mozes (1999) found that there is a significant positive relationship between remuneration and stock returns in firms with independent remuneration committees. Anderson and Bizjak (2003) found that firms with independent remuneration committees award their CEOs greater equity-based remuneration and have high pay-performance sensitivity, implying that outsiders in a remuneration committee may have the incentive to enhance their reputation as decision-makers through setting appropriate managerial arrangements. However, Daily et al. (1998) found no evidence that the proportion of affiliated and/or interdependent directors on the remuneration committee affects the level or structure of CEO compensation.

However, one notable limitation in the literature is measuring committee independence. While not all non-executive directors are considered to be independent directors, the proportion of outside directors, or the presence of insiders on the remuneration committee, were used as proxies for committee independence in most previous studies. In order to overcome this problem, this study relies on the Code criteria for determining the independent status for each director who sits on the committee in order to accurately determine the committee's independence. Therefore, consistent with the agency theory, this study hypothesises the following hypothesis:

H7: There is a negative relationship between the proportion of independent directors on the committee and the level of CEO short-term and total compensation, and a positive relationship with the level of long-term compensation.

4.3.2.2.3 Duality of the Remuneration Committee and Board Chairmanship

Under the three-tier principle-agent model, the function of setting managerial compensation is delegated by the board to a separate subcommittee as another supervisor, i.e. the remuneration committee (Kofman and Lawarree, 1993; Conyon and He, 2004). Therefore, in order to perform its duties, the remuneration committee should be chaired by an individual who is not the chairman of the board, which may enhance the committee's independence. Moreover, one of the functions of the remuneration committee is to determine the compensation of the chairman of the board. Thus the chairman of the remuneration committee has the motivation to increase his/her compensation by paying the CEO more.

Reform actions in the UK recommend that the position of the chairman of the remuneration committee should be separated from the position of chairman of the board. Therefore, the regulators assume that the function of the remuneration committee can be affected if the position

of remuneration committee chairman is held by the chairman of the board. Thus, I hypothesise that the duality of the remuneration committee and the board chairmanship affects CEO compensation:

H8: The duality of the remuneration committee and the board chairmanship has a positive impact on the level of CEO short-term and total compensation, and a negative impact on CEO long-term pay.

4.3.2.2.4 Remuneration Committee Members' Tenure

Generally, there are two opposite theoretical perspectives to explain issues that relate to the directors' tenure; namely, the expertise hypothesis and the CEO allegiance hypothesis. The first hypothesis argues that the directors' knowledge of the firm and industry increases as his/her tenure in the firm increases, which results in a high level of monitoring and governance quality (Vafeas, 2003b).

Consistent with this hypothesis, Bebchuk et al. (2002), Buchanan (1974), Salancik (1977) and Vance (1983) argued that senior directors are predicted to have greater internal governance experience, and thus are more likely to monitor management and provide higher control quality compared with new non-executive directors who may be overly polite and respectful towards the CEO and therefore less likely to be critical. In other words, directors who have served in a company for a long time are less likely to be influenced by management and probably have great loyalty to their firms due to their independence, an aspect which increases with time. In line with these arguments, the optimal contracting perspective assumes that a remuneration committee containing members with long tenure results in optimal outcomes.

The second perspective is under the CEO allegiance hypothesis (also known as the management-friendliness hypothesis) which was also proposed by Vefeas (2003) and developed by Byrd and Cooperman (2010). This hypothesis suggests that long-tenured directors are more likely to develop a friendly relationship with the CEO and less likely to monitor him/her. That is, directors with long-term relationships with the CEO are assumed to have less motivation to stand against managerial proposals or recommendations.

Empirically, Vefeas (2003) investigated the relationship between remuneration committee tenure and CEO compensation. Consistent with the CEO allegiance or friendliness hypothesis, he found that CEOs of firms with greater seniority on the part of the directors on the remuneration committee, received higher levels of compensation. Moreover, Byrd and Cooperman (2010) found similar association in firms with CEOs who had served in their firms for six years or more. Therefore, consistent with the CEO allegiance or friendliness hypothesis, this study hypothesises that the remuneration committee tenure has an effect on CEO compensation.

H9: Remuneration committee tenure is an increasing function of the level of CEO short-term and total compensation, and a decreasing function of the level of CEO long-term compensation.

4.3.2.2.5 CEOs of Other Firms Sitting on the Remuneration Committee

Having sympathy for their counterparts, CEOs who are members of other firms' remuneration committees could negatively affect the quality of pay-setting process and thus the quality of governance (Lorsch and MacIver, 1989; Daily et al., 1998; Sun and Cahan, 2009). Since they prefer fixed cash compensation over non-cash compensation (Harris and Raviv, 1979; Mehran, 1995), CEOs might award their counterparts the level and composition of compensation that they prefer for themselves. Nevertheless, given a value for their experience in pay incentive and their expertise in setting challenging performance criteria, CEOs may act in a different way that could lead to enhanced governance quality.

Empirically, the impact of the CEOs of other firms sitting on the remuneration committee has been found to be non-significant in many previous studies (e.g. Daily et al., 1998; Anderson and Bizjak, 2000; Conyon and He, 2004). However, O'Reilly et al. (1988) found some evidence that indicated that the presence of a CEO on another firm's remuneration committee increases the level of CEO compensation, which supports the managerial power theory. On the other hand, Sun and Cahan (2009) found the presence of a CEO on another firm's remuneration committee enhances the firm's value through increasing the pay-performance sensitivity. However, in line with managerial power theory, this study hypothesises the following hypothesis:

H10: There is a positive association between the proportion of external CEOs sitting on the remuneration committee and the level of CEO short-term and total compensation.

4.3.2.2.6 Remuneration Committee Members' Pay

Fama and Jensen (1983) supposed that external directors would try to use their membership of the remuneration committee as an indication to the directorship market that they (1) are decision experts, (2) perceive the significance of separating management and control decisions, (3) manage the intricacies of working with such monitoring systems. This indication is more likely to be believable when they are paid less. According to the managerial power theory, it is argued that governance mechanism weaknesses may be a result of a high level of external directors' compensation. This argument implies that these directors might tend to protect their directorships and thus their financial interests through satisfying the CEO and increasing his/her compensation, since they recognise his influence over the appointing and reappointing process and acknowledge it might affect them (Kosnik 1990; Vance 1983; Conyon and He, 2004).

O'Reilly et al. (1988) found support for this argument when they noted a positive and significant relationship between CEO salaries and the salary level of non-executive directors, especially those directors who were also members of the remuneration committee. Moreover, Conyon and He (2004) obtained similar results which suggested that higher levels of remuneration committee members' pay is associated with greater levels of total compensation and lower levels of equity-based compensation. Consequently, the remuneration committee members' pay is predicted to affect CEO compensation.

H11: Remuneration committee's members' pay is an increasing function of the level of short-term and total CEO compensation.

4.3.2.3 Ownership Structure

4.3.2.3.1 CEO Ownership

A high proportion of shares that CEOs hold in their companies are assumed to play a role in reducing agency problems (Jensen and Meckling, 1976). Agency theory suggests that executive share ownership is supposed to have a positive impact in aligning the interests of management with those of shareholders by giving the CEO a motivation to increase a firm's value rather than maximising his/her compensation (Allen, 1981; Lambert et al., 1993). Therefore, remuneration committees are expected to take into account the shares held by CEOs in designing their compensation and, specifically, their incentive compensation (Ozkan, 2007). Moreover, Lambert et al. (1993) argue that CEOs with a high proportion of ownership may tend to decrease their level of compensation, which leads to a large decrease in total employees' compensation and finally results in an increase in the equity value of the firm.

CEO share ownership could lead to significant changes in the structure of CEO compensation in two ways. Firstly, firms use incentive or equity compensation to motivate their managers to enhance the firm's performance in the long term, instead of compensating them short-term with cash compensation. Thus, an increase in CEO ownership leads to an increase in his/her motivation to enhance the firm's value, which results in awarding him/her less equity-based compensation and more cash compensation. Secondly, according to managerial power theory, CEOs may attempt to increase their power over the board of directors and over subcommittees by increasing their ownership in the firm thus influencing the selection process and decision making with regard to the internal control structure, including the level and structure of their own compensation (Lambert et al., 1993; Zald, 1969; Tosi and Gomez-Mejia, 1989).

The empirical evidence on the impact of CEO ownership on the level of his/her compensation, indicates mixed findings. For example, while Allen (1981), Lambert et al. (1993) and Talmor and Wallace (2000) found that CEO ownership is negatively and significantly associated with the CEO's total compensation, Cyert et al. (2002) and Byrd and Cooperman (2010) found this relationship to be both positive and significant.

Furthermore, other studies have found that CEO ownership has impact on the structure of executive compensation. Mehran (1995) found that firms with high proportion of CEO ownership awarded their CEOs less equity-based compensation and more cash compensation. Finkelstein and Hambrick (1989) noted similar results with regard to salary, but they found that bonus and total cash compensation are not significantly associated with CEO ownership. In the UK, Ozkan (2007a) concluded that CEO ownership is significantly and negatively related to equity-based compensation, but that this relationship was not significantly associated with CEO cash and total compensation. Finally, Knop and Mertens (2010) found that Dutch CEOs who own at least 1% of the shares outstanding receive higher equity-based compensation. This discussion leads to the following hypothesis:

H12: CEO ownership has a positive impact on their cash and total compensation and a negative impact on their equity-based compensation.

4.3.2.3.2 Chairmen Ownership

As the leader of the internal governance structure, the chairman of the board is expected to manage and contribute to all or most of the internal control decisions, including designing the sub-committees and approving their output. However, it is widely hypothesised that chairmen and non-executive directors with no significant share ownership have a limited incentive to monitor top management (Brickley et al., 1988; Weisbach, 1988; Jensen and Warner, 1988).

In contrast, the interests' alignment hypothesis supposes that chairmen who hold a high percentage of a firm's outstanding shares would have the motivation to increase the firm's value, which aligns their interests with those of shareholders (Shivdasani, 1993; Vafeas, 2003b). That is, in order to enhance the value their own investments, chairmen with a significant proportion of shares are expected to have the incentive to participate in setting challenging managerial compensation and to award their firm's CEO for good performance.

Empirically, no evidence has been gathered to examine the impact of chairman ownership on executive compensation or on corporate governance quality. Therefore, a brief review of the results of previous studies which examined the impact of external or non-executive directors' ownership is

provided since they (i.e. chairmen and non-executive directors) have an almost similar nature and play a similar role in corporate governance.

While Finkelstein and Hambrick (1989), Lambert et al. (1993) and Core et al. (1999) found no relationship between non-executive directors' ownership and CEO compensation, Cyert et al. (2002) and Agrawal and Nasser (2010) found that firms with higher non-executive directors' ownership awarded their CEOs lower levels of compensation. However, a European study by Knop and Mertens (2010) showed strong support for the interests' alignment hypothesis when they found that the relationship between external board members' ownership, including that of the Chairman, and total compensation was negative and significant. Therefore, according to the interests' alignment hypothesis, this study offers the following hypothesis:

H13: There is a negative relationship between the proportion of shares owned by the chairman of the board of directors and the level of CEO sort-term and total compensation.

4.3.2.3.3 Institutional Ownership

It is broadly believed that the concentration of institutional ownership effectively contributes to a mitigation of agency problems between the agent and the principal, by providing their firms with sufficient monitoring. Having the capability and the motivation, large investors are thought to play a significant role in monitoring top management and in controlling their companies' activities (Hartzell and Starks, 2003). That is, due to the high monitoring costs that shareholders incur in order to mitigate agency problems, only this sort of investors can perform this function since they have the ability and incentive to monitor management and thus maximise the value of their investment (Grossman and Hart, 1980; Shleifer and Vishny, 1986; Huddart, 1993). That's why firms with a high concentration of institutional ownership seem to be desirable for small investors - "the free-riders".

Therefore, the existence of institutional ownership as a governance mechanism is important, not only to monitor managers by reducing their pay excesses, but by aligning their interests with those of shareholders through designing suitable incentive schemes that motivate the management to maximise the firm's value (Hartzell and Starks, 2003). In line with this argument, Chidambaran and John (1999) argue that incentive pay and institutional ownership together can contribute to resolving the problem of information asymmetry between the agent and the principal.

However, Dong and Ozkan (2008) suggested that one of the reasons that might reduce the ability of institutional investors to provide an effective monitoring function is the agency problem within the institutions themselves. Therefore, there are a number of reasons (e.g. potential liquidity costs, free-rider problems, conflict of interests and strategy alignment) that may prevent institutional investors

from monitoring management and thus the UK institutional investors may suffer from one, or more, of these obstructions. Hence, according to this study, institutional ownership is found to play no role in improving the governance quality and mitigating the agency problem. In line with this argument, Plender (1997) reported that institutions in the UK rarely vote on AGM proposals since they do not have to do so as is the case in the US. Consistently, Ozkan (2007a) found that total institutional ownership plays no role in determining CEO compensation.

In the US, Dyl (1989), Lambert et al. (1993), and Core et al. (1999) investigated the relationship between different measures of institutional ownership and executive compensation. They found a significant negative association between outside blockholders and total executive compensation, implying that institutional ownership plays an important role in mitigating managerial power over internal control decisions. Moreover, Mangel and Singh (1993) found a similar correlation between institutional ownership and CEO cash compensation (i.e. salary and bonus). On the other hand, Cyert et al. (2002) found that firms with a high percentage of large external shareholders awarded their CEOs less performance-related compensation, suggesting that institutions are substitutes in part for monitoring activities, which mitigates the need for incentive compensation. Therefore, given the discussion above, and consistent with agency theory, this study hypothesises that institutional ownership affects CEO compensation.

H14: There is a negative relationship between the percentages of shares held by institutional investors and CEO short-term and total compensation.

4.3.2.4 The Role and Effect of Remuneration Consultants

4.3.2.4.1 The Use of Remuneration Consultants

Agency theory suggests that managerial compensation should be designed in such a way as to motivate the agent to maximise the firm's value (Jensen and Meckling, 1976). However, due to the lack of knowledge and information about competitive compensation in the labour market, remuneration committees often use external advisors who are specialised and who have knowledge and expertise in managerial remuneration, to supply advice and make recommendations to the committee. Receiving such advice from a professional remuneration consultant is expected to assist in reducing the costs that firms incur through developing such remuneration knowledge and expertise within the firm and supply a variety of important benefits to the firm (Conyon et al., 2009). It also reduces the risk of costly mistakes in setting executive compensation.

The optimal contracting approach assumes that the use of remuneration consultants can be explained on the grounds that they supply professional recommendations with regard to the

structure of compensation arrangements based on their compensation surveys and rich, up-to-date data (Bebchuk and Fried, 2005). Therefore, remuneration consultants acting as independent experts who are primarily hired to participate in aligning the interests of management with those of shareholders are supposed to help in providing valuable assistance through optimising executive compensation packages (Conyon et al., 2006).

However, remuneration consultants may have other incentives or face a conflict of interest which in turn may result in biased pay recommendations (Conyon et al. 2009; Cadman et al. 2010). Furthermore, managers may exploit this conflict of interest to maximise their benefits. William (1985), Tosi and Gomez-Mejia (1989) and Zajac and Westphal (1995) argued that remuneration consultants are used by management to legitimise the managerial compensation decisions and to make the pay-setting process appear more rational for shareholders. Bender (2008) suggested that although it is not mandatory for a firm to hire a consultant, many firms believe that they have to use consultants since shareholders expect an external independent validation of any compensation package. Additionally, Wade et al. (1997) suggested that firms and remuneration committee use remuneration consultants not just to justify their compensation, but also to legitimise and justify any excessive managerial compensation. More recently, Lawler and Finegold (2007) have found that a high percentage of respondents in their survey (i.e. 62%), refer to the use of consultants as the main factor in maximising CEO compensation.

In line with this argument, the managerial power approach suggests that managers exert influence over the remuneration consultants to help them to extract and "camouflage" more compensation at the expense of shareholders (Conyon et al., 2009; Voulgaris et al., 2010). This managerial influence can be generated from the managerial power that exists with regard to hiring and sacking the remuneration consultants (Bebchuk and Fried, 2005). Therefore, consultants believe that the decision of whether to employ their services lies in the management sector, and if their advice dissatisfies the management that might pose a threat to their future business (Minhat, 2008). Moreover, because the fees that are received by the consultants are unrelated to the firm performance, Bebchuk and Fried (2006) argued that those advisors do not have the motivation to design a compensation package that maximises the firm's value. This assumption could be more suitable and reliable when the remuneration committee members have no economic incentives to ensure that the consultant will not be influenced by the management (Crystal, 1991).

Therefore, the use of remuneration consultants is expected to increase agency problems and shareholders might incur extra agency costs from this action in the light of this perspective (Crystal, 1991; Bebchuk and Fried, 2005; Jensen et al., 2004). That is, beyond the costs of hiring external

advisors to help determine managerial compensation, they incur other costs from designing inappropriate compensation packages that may inhibit the strength of the managers' incentive to maximise the firm's value.

Empirically, Conyon et al. (2009) found that the existence of a compensation consultant is positively associated with CEO compensation in the US. However, they found that this correlation is statistically non-significant in the case of UK firms. In both countries, the use of consultants was found to have a strong positive relationship between the use of consultants and CEO equity-based compensation, which supports the argument that using a professional advisor leads to an optimally aligned compensation package. Voulgaris et al. (2010) found the same latter relationship on a larger sample of UK firms, but they noted a positive and significant association with respect to the level of total CEO compensation. Moreover, using CEO ownership and tenure as proxies, they found that the decision to hire remuneration consultants is unrelated to CEO power.

Goh and Gupta (2010) also concluded similar findings with more support for the optimal contracting perspective, since they included the executive salary in their analysis. Although their results indicate that using remuneration consultants leads to a higher level of compensation, they concluded that this increase in executive pay was mainly generated by the managerial incentive components, since they found that the CEOs of firms use consultants to receive lower salaries and higher equity-based compensation.

In the US, Armstrong et al. (2010) found that the use of remuneration consultants is associated with higher CEO compensation. They also noted that higher CEO compensation in firms which use remuneration consultants can also be explained by the differences in corporate governance strength, and not only to the action of appointing a consultant. Nevertheless, this study does not include the structure of compensation to accurately determine the theoretical implications of these findings.

Given the discussion above, the use of a professional remuneration consultant seems to enhance executive compensation governance by providing independent advice, recommendations and surveys that help the remuneration committee members to build their decisions and facilitates their function in designing competitive compensation arrangements. Therefore, by using an indicator variable as to whether or not the firm uses remuneration consultants, this study hypothesises the following hypothesis:

H15: Firms that use external remuneration consultants pay their CEOs less fixed and total compensation and more equity-based compensation.

4.3.2.4.2 Multiple Remuneration Consultants Hypothesis

It is common practice for firms to receive advice from more than one remuneration consultant. However, since it is very costly to hire remuneration consultants (Minhant, 2008; Murphy and Sandino, 2010), the use of multiple remuneration consultants must be justified to shareholders. Bender (2008) suggests that firms justify their use of more than one consultant in two main ways. Firstly, different remuneration consultants have different assets in terms of surveys, market data and analytical methods and, therefore, the remuneration committee is supplied with a variety of updated data and different measuring methods to inform their decisions. Secondly, firms and remuneration committees can compare and contrast the different consultants' recommendations and suggestions in order to determine the most appropriate compensation arrangements for the firm's strategies, which results in strengthening the pay-setting process.

Moreover, in some cases, the management and the remuneration committee may use different remuneration consultants separately to advise both of them on the same aspect of compensation (Bender, 2008). This may result in solving the problem of the conflict of interests that arises when one consultant provides advice for the directors who appointed him/her (Minhat, 2008). Accordingly, under the optimal contracting perspective and the alignment of interests' hypothesis of agency theory, firms are expected to benefit from hiring more than one consultant through building compensation decisions and arrangements according to a variety of professional data and recommendations. Therefore, such an action is predicted to help in aligning the managers-shareholders' interests and to mitigate the agency problems that come from setting inappropriate executive compensation arrangements.

Given the discussion above, the use of more than one remuneration consultant is seen to enhance the pay-setting process by searching for advice from different specialised and expert consultants, or at least to provide a pay package through a process that is socially acceptable. Institutional theory argues that firms need social credibility and acceptability to survive and often they gain that by adopting other firms' actions and visibly acting in a similar manner (Scott, 2001; Conyon et al., 2011). Therefore, in order to legitimise their executive compensation decisions, firms are more likely to hire more than one consultant since other firms do so.

On the other hand, the managerial power theory argues that the action of hiring multiple remuneration consultants can be used by managers to extract more pay through not only legitimising the compensation decisions (Bebchuk and Fried, 2005; Bender, 2008), but also by legitimising excessive compensation decisions which leads to a maximisation of the managers' benefits at the expense of the shareholders. That is, since managers are assumed to have a great

influence over the decision to employ of remuneration consultants, the use of multiple consultants might be an indication of the management's efforts to find the most generous and favourable compensation package. Moreover, Minht (2008) suggested that the use of more than one consultant will create a competitive atmosphere between the firms' remuneration consultants to satisfy the CEO by recommending pay packages in favour of him/her in order to remain in business. However, she found that the use of multiple remuneration consultants plays no role in determining the level of CEO compensation.

If we take into consideration the cost that shareholders incur from hiring multiple remuneration consultants compared with the proposed benefits from such an action, the argument for multiple remuneration consultants is not yet convincing. For example, with respect to their function as survey and data providers, all consultants are inherently supposed to have almost the same data on the market, since they use similar peer-groups and utilise publically published data. Consequently, firms can reduce their costs by hiring just one consultant. Therefore, we can argue that the use of more than one consultant is predicted to be primarily used by managers to justify and legitimise their excessive compensation decisions, rather than to seek the optimal alignment of their pay package, and thus a higher number of remuneration consultants would be expected to decrease the compensation governance quality and increase the agency problems. According to this discussion, and under the managerial power theory, this study hypothesises the following hypothesis:

H16: The number of consultants is positively related to fixed and total CEO compensation, and negatively related to equity-based compensation.

4.3.2.4.3 Conflict of Interest Hypotheses

The literature on the role of remuneration consultants pays considerable attention to the effect of conflicts of interest on the consultants' independence. Critics claim that consultants with conflicts of interest, i.e. conflicted consultants, have interests that are more aligned with those of the CEO than with shareholders (Bender, 2008; Conyon et al., 2009; Cadman, 2010; Murphy and Sandino, 2010; Goh and Gupta, 2010; Conyon et al., 2011). Theorists argue that the main source of conflict of interest arises through the action of the employed external remuneration consultant providing other services to the client firm (e.g. actuarial, auditing, legal, financial services, etc.), together with advising on executive compensation.

It is believed that the revenue which a consultant receives from providing other services to firms is, in general, much greater than that for compensation services. For example, the Waxman Report (2007) reports that Towers Perrin and Hewitt received more than $22 million ($11 million each) from

Johnson & Johnson and Halliburton, respectively, for supplying other services, compared with only $160,000 and $210,000, respectively, for providing compensation advice. Also, Murphy and Sandino (2010) documented similar results in Canada, where firms disclose such information. They found that while remuneration consultants receive, on average, C$98,000 for managerial compensation services, they earn around C$1 million from providing other services. These findings indicate that the range of average ratios of the fees that are obtained for providing compensation services to the total revenue for all services is between 10% and 16%.

Therefore, in order to protect their lucrative other revenue streams from firms, consultants who provide other services to firms perceive that it is the interests of the management that should be served since they believe that the management or the CEO is completely responsible for hiring or rehiring the consultant to provide these other services. Hence, conflicted consultants are predicted to have strong incentives to collude with the CEO and use their influence over the process of setting the managerial compensation to inflate his compensation and/or recommend a pay package that is more favourable to him than to shareholders, in order to protect or increase the revenues they receive from providing other services to the client firm.

In line with this argument, the managerial power theory suggests that managers use their influence over conflicted consultants to help extract more compensation through providing biased advice and recommendations which leads to greater total and fixed levels of pay and lower linkages to pay-performance (Cadman et al., 2010). In turn, satisfied managers will guarantee continuous lucrative revenues and business for the consultants from the firm. Therefore, under this perspective, the relationship between the CEO and the consultant who provides other services to the client firm, can be identified as a gift-exchange relationship (Bebchuk and Fried, 2005; Conyon et al., 2009; Cadman, 2010; Murphy and Sandino, 2010; Goh and Gupta, 2010; Conyon et al., 2011), and thus the use of conflicted consultant is expected to weaken compensation governance, and increase the agency problems and costs within firms.

However, consultants' concerns about their reputation and credibility, and remuneration committees with a higher level of quality, may limit their distorted incentives (i.e. cross-selling incentives) and their willingness to behave in a questionable way (Cadman et al., 2010). Although there is little possibility that remuneration consultants will be legally accused if their client firms are involved in a scandal, since there is no legal responsibility associated with their work and their function is merely to advise on remuneration to committee members, they perceive that their involvement in such a scandal, or at least in the damage to a firm's performance that is generated by

inappropriate executive compensation arrangements, will cost them a great deal in terms of loss of reputation and credibility.

Conyon et al. (2009) and Cadman et al. (2010) found some evidence for the latter argument since they found that the relationship between their empirical proxies for consultants with potential conflict of interests is statistically non-significant in the US, which may suggest that concerns about conflicted remuneration consultants are overstated (Cadman et al., 2010). The results of these studies should be taken with caution since they may contain some measurement errors as discussed earlier. However, using different measures and larger samples in the same year (i.e. 2006), Murphy and Sandino (2010) found that firms with conflicted consultants tended to pay their CEOs a greater level of compensation in the US and Canada, which provides some support for the managerial power theory. Consistent with these findings, Conyon et al. (2009 and 2011) found similar findings in a sample of UK firms in 2003. However, on a subsample, they found some evidence in their latter study (i.e. Conyon et al., 2011) that CEO compensation is greater in firms that receive other services from their remuneration consultants. Nevertheless, the authors state that the result is not robust.

Given the discussion above, this study suggests that the managerial power theory provides a convincing explanation of the expected relationship between CEO compensation and conflicted consultants who provide other services to the client firm, through emphasising the importance of the distorted incentives of the conflicted consultants to serve the CEO's interests rather than those of the shareholders. Accordingly, using an indicator variable as to whether the consultant supplies other services to the focal firm as disclosed in the firm's annual reports, this study makes the following hypothesis:

H17: Firms with consultants who provide other services to management pay their CEOs higher levels of fixed and total compensation and less equity-based compensation.

However, although these perspectives assume that when the remuneration consultant 'currently' does not provide other services is predicted to be independent, this does not deny the potential conflict of interest that may be embedded in the process from the consultants' desire to be hired in the future to provide other services for the focal firm. That is, it is suggested that remuneration consultants, in general, have similar motivations to help the CEO to extract excessive compensation. However, critics charge that the consultant's incentive to collude with management is greater when the remuneration consultant is "non-specialised" in compensation services, i.e. when it provides other services in addition to compensation services (Armstrong et al., 2010). Such a consultant is assumed to have the desire and willingness to use the executive compensation service as an initial

point of access for obtaining other service contracts, in order to develop a gift-exchange relationship with the management in the future. This leads to a second potential source of conflict of interest.

As discussed earlier, other services that are provided by consultants are more financially beneficial compared to the revenue from compensation services (Crystal, 1991; Waxman, 2007). Thus, non-specialised consultants are expected to have the incentive to not jeopardize the possibility of gaining "add-on work" in the future (Bebchuk and Fried, 2004; Wazman, 2007; Armstrong et al., 2010) by recommending a lower-than-expected compensation package. In contrast, consistent with this argument, specialised consultants are assumed to have no incentive to satisfy opportunistic managerial behaviour and to facilitate higher compensation extraction on the part of managers, since they have no possibility of receiving "add-on" work in the future, and thus are suggested to have no potential conflict of interest.

This distinguishing between "specialised" and "non-specialised" consultants is in line with previous studies that investigate the effect of conflicted consultants in the US (e.g. Cadman et al., 2010; Conyon et al., 2009). However, they found no relationship between the use of specialised or non-specialised consultants on the level of CEO compensation. Armstrong et al. (2010) found some evidence that firms with weaker corporate governance are more likely to hire non-specialised remuneration consultants, which provides some support to the study's argument. Using the fraction of the number of specialised consultants in the firm as a proxy for this variable, this study makes the following hypothesis:

H18: Firms that use specialised remuneration consultants pay their CEO less fixed and total compensation, and more equity-based compensation.

Another important source of a conflict of interest is the appointment process of the remuneration consultant. The problem of a conflict of interest arises when the remuneration consultants advise on a compensation package for the same people who have influence over their appointment or reappointment. Historically, management or its subordinates (e.g. human resources departments) were responsible for hiring the remuneration consultant who was to work directly for them. This situation is assumed to result in a great level of conflict of interest since the function of remuneration consultants is to make recommendations with regard to determining the level and structure of compensation for the executives who hire them and pay their bills (Bender, 2008; Murphy and Sandino, 2010).

However, due to increasing concerns on the part of regulatory bodies and reform actions, and the resultant improvement in corporate governance in the last decade, this function (i.e. appointing a

remuneration consultant) has increasingly shifted from the management to the remuneration committee. For example, the UK Corporate Governance Code (2003) states that the remuneration committee should be the main body responsible for appointing any external remuneration consultant (provision B.2). Additionally, the International Committee of Corporate Governance (2002) points to this issue and assumes that utilising advice on executive compensation from a consultant appointed by management will lead to biased recommendations, since the consultant is not independent of the management. Also, it suggests that the remuneration committee must have the final decision over the appointment of the remuneration consultant, in order to increase the consultant's independence. Similarly, in the US, the New York Stock Exchange, in response to the Sarbanes Oxley recommendations, states that "…the compensation committee charter should give that committee sole authority to retain and terminate the consulting firm, including sole authority to approve the firm's fees and other retention terms" (Rule 303A).

However, since the UK Corporate Governance Code provides "best practices guidelines", and thus its recommendation are not mandatory, the shift to giving the remuneration committee authority over appointing consultants has increased, but the action of appointing such consultants by management still exists. Moreover, Murphy and Sandino (2010) argued that although the regulatory requirements have increased the committees' authority over hiring consultants, these demands do not eliminate the conflict of interest that arises from the consultant's natural desire to obtain repeat business. That is, it is common practice that the management hires its own consultant to advise on the same aspects of compensation, together with the consultant who has been appointed by the committee. Consequently, the management's consultant remains conflicted. Also, they added that even if the consultant is retained by the remuneration committee, they usually work directly for management.

The optimal contracting theory implies that the appointment of remuneration consultants by management is assumed to negatively affect the consultants' independence. Therefore, the hiring of consultants by the remuneration committee is supposed to be an optimal ex-ante action to increase the consultants' independence in terms of recommending a pay package that is in favour of the shareholders rather than the managers, since it reflects the committee's desire to reduce the entrenchment of the consultant. In line with this argument, Conyon et al. (2011) suggested that internal corporate governance, through the board of directors and the remuneration committee, may attempt to enhance the compensation governance through taking on the responsibility of appointing the remuneration consultant. Such an action is supposed to help the consultant to effectively perform his/her duties, since the assumption can be made that the board of directors and

the remuneration committee, rather than the management, are in charge of the process of appointing or reappointing him/her.

Although this argument is in line with managerial power theory, this approach may expand the influence of managers to dominate all engaged parties, and thus the process of appointing a consultant in order to legitimise managements' excessive compensation. That is, in line with the optimal contracting approach, the managerial power perspective predicts that the CEO will use his direct power over the consultant's appointing process to influence his recommendations in order to extract higher and more favourable compensation. However, powerful CEOs who have influence over both the internal governance structure and the consultants, may tend to make his/her excessive compensation appear more rational for outsiders, and will legitimise the process of pay-setting by influencing the remuneration committee's decision with respect to choosing the consultant (Wade et al. 1997; Bender, 2008; Conyon et al., 2011).

Therefore, reporting that the remuneration consultant was appointed by the remuneration committee would give social acceptability to the level of the consultant's independence and thus give more room for both the managers and the consultants to start a gift-exchange relationship (i.e. excessive compensation for repeat business). This complicated multiple dimension of managerial power will be more believable if the CEO compensation level and structure is more favourable for the CEO than for shareholders in firms with remuneration consultants that were appointed by the remuneration committees. Empirically, some support for the latter argument was found by Murphy and Sandino (2010). They noted that the CEO receives significantly higher compensation when the remuneration consultant is appointed by the remuneration committee. However, the researchers conclude that it is theoretically difficult to interpret this result.

Consistent with optimal contracting theory, this study argues that giving the remuneration committee the authority to hire its own consultants will contribute effectively to aligning the interests of managers with those of shareholders by increasing the consultants' independence and thus will enhance the executive compensation governance. Using an indicator variable as to whether the remuneration consultant is appointed by the remuneration committee, this discussion leads to the following hypothesis:

H19: CEOs of firms with remuneration consultants appointed by the remuneration committee, receive lower fixed and total compensation and more equity-based compensation.

4.3.2.4.4 The Reputation Hypothesis

Consistent with the theoretical argument in regard to the external auditor's reputation, the remuneration consultant's reputation has been found to be one of the most important criteria that boards of directors or remuneration committees rely on when they choose their remuneration consultant (Bender, 2008). That is, since the judgement on the consultant's performance is complicated and needs a good deal of time to evaluate the effectiveness of his advice and recommendations, firms often justify their decision with regard to hiring a consultant by his/her creditability and reputation in the market, and use the consultant's size (i.e. market share or number of clients) as an indication of his reputation.

In turn, remuneration consultants with a good reputation are predicted to have a strong incentive to protect and improve this reputation by increasing the quality of their compensation services. Moreover, such consultants are less likely to collude with client firms' managements or engage in gift-exchange relationships since their involvement in any corruption or scandal might lead to damaging consequences for their future business. This would be more so than with other consultants with a lower market share and as a result create a potential for more meaningful damage to their own reputation arising. DeAngelo (1981) found that auditors with more market share have "more to lose" if they perform worse or are involved in bad financial reporting. He found that such auditors with a greater number of clients have the incentive to enhance the quality of their auditing outcomes. Similarly, under the reputation hypothesis, this study argues that consultants with a greater market share are expected to improve the quality of compensation governance by recommending a CEO pay package that is in favour of shareholders rather than the CEO.

On the other hand, others argue that remuneration consultants compete to maximise their market share by advising higher-than-expected CEO compensation in order to attract other CEOs to hire them (Minhat, 2008). In line with this argument, the managerial power theory implies that remuneration consultants perceive the managerial power over their appointing decisions, and thus they compete with the rest through using their influence on executive compensation to satisfy them in order to remain in business and develop a generous pay-setters reputation in the market. This will result in increasing their clients and their market share. Minhat (2008) found support for this argument as she documented a positive and significant relationship between the consultants' market share and the level of CEO compensation. However, this study does not examine this variable on the structure of CEO compensation, since it may change the theoretical implications of its result. Moreover, as discussed in the literature review chapter, this finding should be treated with caution since this research may contain some measurement errors and some sample selection bias.

However, this study argues that the reputation hypothesis provides a convincing explanation for the relationship between the consultants' market share and CEO compensation. Using the average of the firm's consultants' market share, this study hypothesises the following hypothesis:

H20: CEOs of firms that use remuneration consultants with a greater market share receive less fixed and total compensation and more equity-based compensation.

4.3.2.4.5 Legal Advisors

It is common practice for firms and remuneration committees to receive legal advice from external legal consultants. Generally, remuneration committees claim that they receive legal advice from an external legal advisor on issues that relate to the rules of executives incentive and share option plans, together with other services in regard to executive services' contracts. Although there is a large number of remuneration committees which hire legal advisors, or in some cases use the firm's in-house one, the role and effect of those legal advisors on executive compensation is undiscovered.

In terms of the functions and services that are provided by the legal advisors, it can be claimed that remuneration committees use legal advisors as complementary, not supplementary, services to those of remuneration consultants. That is, while remuneration consultants supply surveys, data, and recommendations on the level and structure of executive compensation, legal advisors mainly provide services in terms of the development and the practices of corporate governance, boards and remuneration committee responsibilities, disclosure, rules and regulations compliance, tax advice, executive contracts and severance arrangements (Reda et al., 2005). Accordingly, both remuneration and legal consultants are predicted to help the remuneration committee members in in developing, implementing and legitimising the process of CEO pay-setting and the compensation package itself.

Therefore, in line with the alignment of interests' hypothesis of agency theory and the optimal contracting perspective, the remuneration committee's use of a legal advisor is assumed to help in increasing the validity and creditability of the managerial pay-setting process and thus enhance the quality of executive compensation governance. Accordingly, the use of a legal advisor is expected to mitigate the agency problems and increase the alignment the interests of managers with those of shareholders by optimising the executive pay arrangements.

However, under the managerial power theory and the excessive pay legitimisation hypothesis, one may argue that a powerful CEO may hire a legal advisor, or influence the remuneration committee to do so, in order to make the pay-setting process appear more rational to outsiders and thus legitimise his/her excessive compensation (e.g. Wade et al., 1997). This argument is more believable

when the level and structure of a compensation package is in favour of the CEO rather than the shareholders. This discussion leads to the following hypothesis:

H21: Firms that use remuneration legal advisors pay their CEOs more fixed and total compensation and less equity-based compensation.

4.3.2.4.6 Opinion-shopping hypothesis

Motivated by the literature that investigates the effects and the motivation for switching the external auditors, critics question the reasons behind changing or switching remuneration consultants (e.g. Cadman et al., 2010; Goh and Gupta, 2010; Armstrong et al., 2010; Conyon et al., 2011). Since the determinants of the remuneration consultant's tenure in the client firm are undiscovered, or at least not yet convincingly understood, one might question why firms switch their remuneration consultants. Switching the consultants is assumed to have an effect on the executive compensation package, as different remuneration consultants have different assets in terms of data and techniques (Goh and Gupta, 2010). Additionally, different consultants are also believed to have different levels of professionalism and willingness to collude, or not collude, with management.

Although the regulation of the external auditors' work is more straightforward and organised, the nature of the relationships between management and both the auditor and the remuneration consultant are similar. That is, auditors and remuneration consultants have similar incentives to facilitate the management's needs, since both perceive the managerial influence over their business with the firm. For example, in terms of the management incentive to change their external auditor, some studies have found some evidence that firms are more likely to get an audit opinion in their favour after changing their external auditor, which provides some support for the opinion-shopping hypothesis (e.g. Lennox, 2000).

Similarly, under the managerial power perspective of executive compensation and consistent with the use of multiple remuneration consultants' theoretical argument , it can be argued that the action of switching the remuneration consultant might be interpreted in terms of the tendency to "opinion-shop" for favourable opinions by using a new consultant (Goh and Gupta, 2010) when management replaces the firm's remuneration consultant in order to receive a more generous compensation package from the new consultant. As discussed earlier with respect to the use of multiple consultants, when powerful managers tend to hire more than one consultant in order to seek for more generous and favourable opinions, the same argument can be applied in this case, when managers again switch the firm's remuneration consultant in order to receive a more generous and favourable opinion.

However, the fact that remuneration committees may be trying to enhance compensation governance by switching the remuneration consultant cannot be neglected. Bender (2008) found that in some cases, remuneration committees make the decision to switch the remuneration consultant due to the longevity of employment of the consultant and his closeness to the executives. Also, she documents one case where the remuneration committee members changed the consultant because they were unhappy with his recommendations. In line with these findings, Goh and Gupta (2010) argued that there are several reasons that may influence a firm's decision to switch consultants such as dissatisfaction with the previous consultant's advice, cost savings, enhancing internal expertise and knowledge and the need to mitigate the entrenchment between managers and consultants.

Accordingly, the switch of remuneration consultants may lead to a higher quality of executive compensation governance, and hence increase the alignment of the interests of managers with those of shareholders by setting an appropriate compensation package (i.e. less fixed and more equity-based compensation). Empirically, however, the only study that has investigated this issue is that of Goh and Gupta (2010) which found a good deal of support for the managerial power or rent-extraction hypothesis. The researchers noted that when firms switch their 'main' remuneration consultant, they are more likely to pay their executives a higher fixed compensation 'salary' and less equity-based compensation, implying that the action of switching the remuneration consultant can be interpreted under the managerial opinion-shopping hypothesis.

However, throughout our survey of the firms' annual reports, it is found that firms do not disclose details of their 'main' consultant, if any, in the event that they have more than one consultant, and in the main firms use multiple consultants to advise on different aspects of remuneration components. Goh and Gupta do not explain this issue in their methodology, and merely indicate that they have examined the main consultant turnover. Therefore, this study will apply a different proxy to measure the consultant turnover by detecting any switching among all the firm's consultants. This discussion under the rent-extraction approach leads to the following hypothesis:

H22: Firms that replace their remuneration consultant pay their CEOs higher fixed and total compensation and less equity-based compensation.

4.2.3 Measurement of the Control Variables

A number of control variables are included in this research to control for other compensation determinants that are out of this study's scope, but which have been widely found to affect CEO compensation. Previous studies have found that there are several CEO and firm characteristics that play roles in determining CEO compensation. The consideration of these human capital and

economic determinants is mainly to ensure that the analyses concentrate more on the differences created by variations in corporate governance practices and to mitigate the impact of omitted variables on explaining the dependent variables. However, there are some difficulties when it comes to controlling for some human capital characteristics that may influence CEO compensation due to measurement difficulties and/or data availability, such as educational or professional qualifications for both CEOs and directors, as well as cultural background. Such variables have clearly been found to play a role in determining CEO compensation.

As this research aims to find out whether there is a relationship between CEO compensation and corporate governance characteristics, it is crucial that other elements that are expected to influence the level and structure of CEO compensation be included. The review of the previous literature on executive compensation has determined that eight factors are relevant to this research. These eight control variables are firm size, firm performance (two variables), firm growth opportunities, leverage ratio, stock volatility, CEO age and CEO tenure. Each variable's description, measurement, and predicted relationship are considered individually below.

4.3.3.1 Firm Size

It is widely assumed that firms tend to design their governance structure and choose their internal control practices according to their firm-specific characteristics, including firm size. That is, firms of a different size try to determine the most relevant governance structure according to their needs (i.e. the complexity of business) and their ability to burden higher agency costs. Moreover, in terms of executive compensation, firm size is found by previous research to significantly affect the level of executive compensation, which reflects the operational complexity of the firm and the firm's ability to award higher compensation (Jensen and Murphy, 1990; Firth et al., 1996; Conyon, 1997; Conyon and Murphy, 2000).

Among others, Core et al. (1999), based on theoretical and empirical evidence, suggest that larger firms have more operational complexity and thus require executives and CEOs of high quality which leads to higher levels of compensation. Conyon and Murphy (2000) concluded that the CEOs of larger firms receive higher levels of compensation. Conyon et al. (2009) and Cadman (2010) also emphasised the importance of taking into account the organisational complexity in analysing any issue that related to executive compensation by controlling for firm size.

Therefore, firm size is likely to affect various attributes of CEO compensation and corporate governance. Previous studies used different proxies for firm size such as total assets, sales, and number of employees. In this study, firm size is measured as the natural logarithm of total assets at the year-end as has been the case in many earlier pieces of research (e.g. Finkelstein and Hambrick,

1989; Talmor and Wallace, 2000; Mehran, 1995; Cyert et al., 2002; Cadman, 2010; Wang et al. 2011). Data relating to this variable is collected from DataStream.

4.3.3.2 Firm Performance

One of the most important economic determinants of CEO compensation is firm performance. Theoretically, it is assumed by the agency perspective, that firm performance positively affects the level of executive compensation (Core et al., 1999). Hence, it is widely suggested that taking firm performance into account in discussing any issue that relates to the determinants of executive compensation, is mainly to reflect the potential alignment of the interests of managers with those of shareholders (e.g. Murphy, 1985; Eisenhardt, 1989; Lambert et al., 1993; Tosi et al., 1997; Core et al., 1999; Conyon et al., 2009).

Lagged performance measures have been widely used in the related literature for two main reasons. Firstly, executives may be rewarded greater salaries and/or bonuses in the current year if they have achieved a superb or good performance during the last year (Perry and Zenner, 2001). Secondly, the using of lagged performance measures can assist in overcoming the problem of reverse causality between firm performance and CEO remuneration by illustrating an obvious causal correlation from the previous year's performance to the current year's remuneration and thus resolve the pay-performance joint endogeneity problem (Hermalin and Wallace, 2001).

Previous studies have used a variety of performance market- and accounting-based measures. For ease of comparison between this research's findings and previous studies' results, the most widely used measure in the literature will be used in this study in order to represent the performance of the overall firm. The annual stock market return on common stock (RET) has been found to be an appropriate proxy for firm market-based performance as it directly reflects the change in shareholders' wealth that comes from stock appreciation during the year (e.g. Lambert et al., 1993; Hall and Liebman, 1998; Core et al., 1999; Perry and Zenner, 2001; Brick et al., 2006; Murphy and Sandino, 2010). Therefore, lagged stock market return (RET_{-1}) will be utilised in this study to control for market-based performance effects on CEO compensation. On the other hand, consistent with many previous studies, return on assets (ROA_{-1}) will be used to control for firm accounting performance (measured as the ratio of earnings before interest and taxes to total assets) as it has received a great deal of attention in recent research (Perry and Zenner, 2001; Brick et al., 2006; Bizjak et al., 2008; Murphy and Sandino, 2009; Cadman et al, 2010; Wang et al, 2011). Both variables' inputs were collected from DataStream and computed manually using Excel.

4.3.3.3 Firm Risk

The need for controlling for firm risk in executive compensation studies comes from the theoretical notion that risk-averse managers might demand greater remuneration in a more risky business situation (Conyon et al., 2009). For instance, Cyert et al. (1997) found that CEOs receive higher pay in firms with greater stock return volatility. Moreover, as managers are expected to have a risk-averse personality, they naturally prefer to receive a less risky compensation structure (i.e. more fixed pay and less equity-based compensation) (Harris and Raviv, 1979). As a result, in order to increase their own wealth, firms or shareholders usually tend to motivate their executives to engage in more risky business activities by designing their compensation arrangements with less cash compensation and more incentive plans (Mehran, 1995). Therefore, it is predicted that both the level and the structure of CEO compensation are affected by firm risk.

A variety of measures of firm risk have been used in previous studies. For example, Murphy and Sandino (2009) predicted that a higher proportion of equity-based pay reflects the risk of the business and thus use this fraction as a proxy for firm risk. However, there are many other factors that affect CEO compensation and some of them are under the control of the CEO him/herself as suggested by the managerial power perspective. Therefore, consistent with previous empirical research on executive remuneration (e.g. Core et al., 1999; Cyert et al., 2002; Basu et al., 2007; Brick et al., 2006; Fahlenbrach, 2009; Knop and Mertens, 2010), share price volatility (i.e. the standard deviation of annualised monthly stock returns over the previous calendar year) is used as a proxy for firm risk. Unlike other proxies, this measure determines the risk of the firm's operating environment and reflects the market valuation of the firm risk.

Moreover, previous studies have made much use of firm leverage in measuring the accounting-based or operating risk and also to control for the interests of debt holders in the firm (e.g. Mehran, 1995; Basu et al., 2007). The need for controlling for capital structure in executive compensation studies comes from the fact that debt holders may substitute for the board as a monitoring device (Jensen, 1986; Williamson, 1988) or, alternatively, the debt ratio may affect the firm's policy in designing CEO compensation, e.g. more pension plans, to ensure greater interest alignment (Sundaram and Yermack, 2007; Bryan et al., 2000; Brick et al., 2006). Therefore, consistent with the literature, leverage ratio will be used to control for capital structure. These two variables, i.e. stock volatility and leverage ratio, are gathered from DataStream.

4.3.3.4 Firm Growth Opportunities

Generally, it is argued that firms with greater growth opportunities require more highly qualified and talented managers and hence need to offer higher levels of remuneration (Rosen, 1982; Smith and

Watts, 1992). Moreover, in such firms, it is challenging to evaluate executives' actions in the short-term as the results of their current performance are more likely to be observed in the long run (Knop and Mertens, 2010). In line with this argument, empirical evidence has documented a positive correlation between the use of incentive compensation and firms with more growth opportunities, which might lead to greater levels of total remuneration.

Consistent with a large number of previous studies into executive compensation (Mehran, 1995; Core et al., 1999; Talmor and Wallace, 2000; Basu et al., 2007; Ozkan, 2007a; Ozkan, 2007b; Conyon et al., 2009; Fahlenbrach, 2009; Knop and Mertens, 2010; Cadman, 2010) this study controls for firm growth opportunities using the market-to-book ratio (M2B) as a proxy. This ratio is set equal to the year-end market capitalisation divided by the book value of equity (Knop and Mertens, 2010). The information required to populate the variable is sourced from DataStream.

4.3.3.5 Human Capital Characteristics

It is widely believed that managers with greater human capital are rewarded with higher pay (e.g. Agrawal, 1981; Leonard, 1990; Basu et al., 2007). That is, executives with greater human capital are assumed to perform their duties better and to enhance the firm's performance and thus are compensated more (Basu et al., 2007). Therefore, previous studies in executive compensation usually control for human capital, as it is assumed to have some explanatory power for executive compensation. CEO age and tenure have been used in many previous studies to reflect CEOs skills and experience and to control for the effects of CEO human capital (e.g. Garen, 1994; Conyon and Murphy, 2000; Perry and Zenner, 2001; Cyert et al., 2002; Basu et al., 2007; Fahlenbrach, 2009). Along with the same lines, this study uses these two variables to control for firms' demand for high quality CEOs.

4.3 Empirical Research Models

This study employs two main models to examine the impact of corporate governance and remuneration consultants on the level and structure of CEO compensation. The first model tests the hypotheses related to corporate governance variables, whereas the second examines the role and effect of the remuneration consultant hypotheses. There are several reasons that support this separation into two models. For example, the function of the remuneration consultant is argued to substitute for the role of internal governance mechanisms in setting the managerial compensation (e.g. Bender, 2008). Therefore, to avoid the potential substitution problem that may exist between the internal governance attributes and the use of remuneration consultants, this study constructs a separate model for each set of variables.

Furthermore, most previous studies that have discussed the role and effect of remuneration consultants have investigated the impact of remuneration consultant attributes separately from the effect of internal governance mechanisms. They have done this in order to accurately determine the impact of the consultants' quality on CEO compensation compared with that predicted by economic determinants. Also, different control variables will be used in the second model. For example, consistent with previous studies of remuneration consultants, dummies for the big six consultants will be used to control for their isolated effects on CEO pay outcomes (e.g. Minhat, 2008; Conyon et al., 2009; Armstrong et al., 2010; Goh and Gupta, 2010). Thus, this separation is also motivated by facilitating the comparison with previous studies. Finally, differences in terms of theoretical implications between these two groups of internal and external mechanisms may exist, since the two parties show different aspects with regard to relationships and responsibilities with management and shareholders, and thus they are theoretically expected to have different incentives to work in favour of shareholders or to collude with management.

Therefore, the first model has been developed to examine the impact of corporate governance mechanisms and ownership structure on CEO compensation. The following general model is used to examine the relationship between CEO compensation and boards of directors, remuneration committees and ownership structure:

The first empirical model:

(1)

$$
\begin{aligned}
COMP_{it} = \ & \gamma_0 + \gamma_1 BSIZE_{it} + \gamma_2 NED_{it} + \gamma_3 IND_{it} + \gamma_4 DUAL_{it} + \gamma_5 NEDPAY_{it} + \gamma_6 CHARIND_{it} \\
& + \gamma_7 RCSIZE_{it} + \gamma_8 RCIND_{it} + \gamma_9 RBDUAL_{it} + \gamma_{10} RCTEN_{it} + \gamma_{11} CEOS_{it} \\
& + \gamma_{12} RCPAY_{it} + \gamma_{13} CEOOWN_{it} + \gamma_{14} CHOWN_{it} + \gamma_{15} INSOWN_{it} + \gamma_{16} CEOAGE_{it} \\
& + \gamma_{17} CEOTEN_{it} + \gamma_{18} TOTASSETS_{it} + \gamma_{19i} ROA_{t-1} + \gamma_{20i} RET_{t-1} + \gamma_{21} M2B_{it} \\
& + \gamma_{22} LEV_{it} + \gamma_{23} VOL_{it} + \varepsilon_{it}
\end{aligned}
$$

Dependent Variables:

COMP   CEO compensation variables, including natural logarithm of salary, natural logarithm of bonus, natural logarithm of total short-term compensation, natural logarithm of LTIPs, natural logarithm of ESOs, natural logarithm of total long-term compensation, and natural logarithm of total compensation for firm *i* in year *t*.

Independent Variables:

BSIZE   The number of directors on the board of directors

NEDs   The proportion of non-executive directors to total board members

INDs   The proportion of independent directors to total board members

DUAL	Duality, takes the value 1 if the CEO sits on the board as Chairman, 0 otherwise
NEDPAY	The natural logarithm of the average pay of non-executive directors on the board.
CHAIRIN	A dummy variable that takes the value of 1 if the chairman is independent according to the chairman independence criteria recommended by the Code, and 0 otherwise.
RCSIZE	The number of directors on the remuneration committee.
RCIND	The proportion of independent directors on the remueneration committee
RBDUAL	Duality takes the value 1 if the chairman of the remuneration committee sits on the board as the chairman, 0 otherwise
RCTEN	The total tenure of remuneration committee members divided by their number
CEOs	The number of other firms' CEOs sitting on the remuneration committee divided by the remuneration committee size
RCPAY	The natural logarithm of the average pay of non-executive directors on the remuneration committee.
CEOWN	The total number of shares held by the CEO divided by the total number of shares.
CHOWN	The total number of shares held by the chairman divided by the total number of shares.
INSOWN	Institutional ownership; proportion of aggregate blocks of at least 3% of the firm's outstanding shares held by all institutional investors
	Control Variables:
CEOAGE	The age of the CEO in years
CEOTEN	Number of years since appointment as CEO
TOTASSE	The natural logarithm of the book value of total assets as a proxy for firm size
ROA	The lagged return on assets as a proxy for accounting-based performance
RET	The lagged stock return as a proxy for market-based performance
M2B	Market-to-book ratio as a proxy for growth opportunities
LEV	Total long-term debt divided by total assets.
VOL	Stock price volatility as a proxy for firm risk

Furthermore, In order to investigate the role and effect of the remuneration consultants and their attributes on the level and structure of CEO compensation, two models have been developed. The use of remuneration consultants is separated from other consultant's variables due to the obvious problem of multicollinearity between this variable and other variables.

(2)

$$In\ (COMP_{it}) = \gamma_0 + \gamma_1 USECON_{it} + \gamma_2 CEOAGE_{it} + \gamma_3 CEOTEN_{it} + \gamma_4\ In\ (TOTASSETS_{it})$$
$$+ \gamma_{5i} ROA_{t-1} + \gamma_{6i} RET_{t-1} + \gamma_7 M2B_{it} + \gamma_8 LEV_{it} + \gamma_9 VOL_{it} + \varepsilon_{it}$$

(3)

$$In\ (COMP_{it)} = \gamma_0 + \gamma_1 NCONS_{it} + \gamma_2 OTHER_{it} + \gamma_3 APPOINT_{it} + \gamma_4 SPEC_{it} + \gamma_5 MSHAR_{it}$$
$$+ \gamma_6 LEGAL_{it} + \gamma_7 SWTCH_{it} + \gamma_8 B6_{it} + \gamma_9 + \gamma_{10} CEOAGE_{it} + \gamma_{11} CEOTEN_{it}$$
$$+ \gamma_{12} In\ (TOTASSETS_{it}) + \gamma_{13i} ROA_{t-1} + \gamma_{14i} RET_{t-1} + \gamma_{15} M2B_{it} + \gamma_{16} LEV_{it}$$
$$+ \gamma_{17} VOL_{it} + \varepsilon_{it}$$

Dependent Variables:

COMP   CEO compensation variables, including natural logarithm of salary, natural logarithm of bonus, natural logarithm of total short-term compensation, natural logarithm of LTIPs, natural logarithm of ESOs, natural logarithm of total long-term compensation, and natural logarithm of total compensation for firm *i* in year *t*.

Independent Variables:

USECON   Dummy variable, takes the value 1 if firm uses one or more remuneration consultants, 0 otherwise

NCONS   The number of remuneration consultants used in the fiscal year

OTHER   Dummy variable, takes the value 1 if the remuneration consultant provides other services to the client firm, 0 otherwise

APPOINT   Dummy variable, takes the value 1 if the remuneration committee appointed the remuneration consultant, 0 otherwise

SPEC   The proportion of specialised remuneration consultants

USELEGA   Dummy variable, takes the value 1 if the remuneration committee receive legal advice from an external legal advisor, 0 otherwise

SWTCH   Dummy variable, takes the value 1 if at least one of the remuneration consultants has been replaced during the year, 0 otherwise

Control Variables:

B6   Dummy variable identifies the big six consultants according to their market share

CEOAGE   The age of the CEO in years

CEOTEN   Number of years since appointment as CEO

TOTASSE   The natural logarithm of total assets as a proxy for firm size

ROA   The lagged return on assets as a proxy for accounting-based performance

RET   The lagged stock return as a proxy for market-based performance

M2B   Market-to-book ratio as a proxy for growth opportunities

LEV	Total long-term debt divided by total assets.
VOL	Stock price volatility as a proxy for firm risk

4.4 Sample Selection and Data Collection Procedures

This section discusses the sources of the data which will be used for the analysis and considers the sample selection criteria. All data sets that were used in this study were collected manually from the companies' annual reports. Electronic annual reports were accessed through Northcote Internet Ltd. However, some the missing annual reports were downloaded from the companies' websites. Finally, accounting and market data were gathered from DataStream.

Data is collected for the fiscal year's corresponding to 2004-2008 to provide the most recent investigation in the literature and to investigate whether the UK Corporate Governance Code (2003) and the Directors' Remuneration Report Regulations (2002) have affected CEO compensation practices.

As some of the recommendations and regulations give exceptions to smaller firms and some of the provisions do not apply to firms smaller than those included in the FTSE 350, the data is based on firms listed in the FTSE 350. Moreover, the FTSE 350 represents around 90% of the UK market capitalisation, which reflects the high level of results' generalisability and the importance of findings that come from a research that applies to this index as a sample.

Although the UK firm year is supposed to end on 31 March, only 20% of the firms of this study's sample end their financial year on that date. For most of the firms in our sample, the financial year ends on 31 December (51%), and others on 31 April (7%), 30 September (5%), 31 Jun (5%), 28 February (4%), 31 January (3%), 31 August (2%), and 31 July (2%). Therefore, it would be inappropriate to neglect these differences and consolidate the end of the financial year in collecting the data either from the annual reports or from DataStream. This research tries to overcome this problem by matching the reporting year end for each company during the data collection stage from the annual reports and DataStream.

Although most of the firms rewarded their CEOs in UK sterling, there are some CEOs who are rewarded in different currencies (i.e. US dollars, Euros, and Australian dollars). Therefore, in order to standardise the sample and facilitate the comparison, all these compensation variables are converted into UK sterling, thus all compensation variables of this study are demonstrated in UK sterling. The annual exchange rate averages for each year have been used. The following Table shows the exchange rates for each currency to UK sterling:

	2004	2005	2006	2007	2008
US $	£ 0.54590	£ 0.54990	£ 0.54339	£ 0.49974	£ 0.54472
Euro €	£ 0.67833	£ 0.68378	£ 0.68163	£ 0.68437	£ 0.79584
A $	£ 0.40191	£ 0.41895	£ 0.40894	£ 0.41869	£ 0.45804

* *Source: Bank of England*

Following previous research into executive compensation and corporate governance (e.g. Mehran, 1995; Ozkan, 2007), financial and regulated firms are excluded from the sample (20% of the initial sample). The reason behind this exclusion is that these firms have their own special accounting practices (i.e. conservative accounting practices) and also have specific executive compensation practices, regulations and reform actions (e.g. the Walker Report on corporate governance of UK banks and other financial industry entities).

Table 4.2 Sample size and missing data

Description	2004	2005	2006	2007	2008	Pooled
Initial sample (FTSE 350)	350	350	350	350	350	1750
Excluded						
Financial, insurance and investment companies	*64*	*66*	*69*	*74*	*79*	*352*
Missing annual reports and/or compensation data	*49*	*54*	*44*	*28*	*13*	*188*
Missing corporate governance data	*47*	*31*	*19*	*18*	*13*	*128*
Missing DataStream information	*41*	*41*	*45*	*53*	*51*	*231*
Final sample for first model	**149**	**158**	**173**	**177**	**194**	**851**
Missing consultants' remuneration data	109	91	82	76	60	509
Final sample for second model	**87**	**98**	**110**	**119**	**147**	**561**

Another important reason for excluding financial firms is that the government sometimes interferes in the operations of financial companies and changes the management if it damages the value of the firm or misbehaves in performing its duties. Therefore, including this kind of company in the sample would lead to a biased analysis and thus misleading findings. Furthermore, due to missing annual reports that cannot be found either on the Northcote website nor on the firms' own websites, and also because of poor disclosure in terms of executive compensation and corporate governance, a number of firms have been omitted (18% of the initial sample). Finally, around 13% of the initial sample has been excluded due to missing DataStream information.

Therefore, as illustrated in Table 4.2, the final usable sample is 851 observations for the first model and 561 observations for the second model. Moreover, the sample is divided into four main industries according to the DataStream classification. Each classification has a satisfactory number of observations across the whole sample. The four industrial categories are Industrial, Services, Utilities, and Information Technology which represent 44%, 35%, 12%, and 10% of the study sample, respectively.

4.5 Analytical Procedures

The statistical methods that are employed in this study will be investigated in this section. Generally, these methods are classified into two main categories; parametric and non-parametric estimations, and the decision as to which method should be employed depends on the nature and characteristics of the data. However, along with the assumptions that were econometrically suggested, which should be met before utilising parametric tests, there are some problematic aspects that might occur in the use of panel data that should be taken into account in this study; namely missing data, unbalanced data and outliers.

Firstly, to focus on missing data, due to a few cases of missing annual reports and poor disclosure practices in other cases, the panel data used in this research contains some missing values. In order to mitigate the number, especially in terms of independent directors' characteristics, other data sources were utilised to fill the gaps (i.e. Capital IQ and Thomson One Banker databases). However, it was decided not to delete or impute the observations that contained missing values, since they were more than 5% of the sample and existed completely at random (Missing Completely At Random, MCAR). Moreover, the missing data removal strategy would negatively affect the population by decreasing the sample size and might cause a change in the content of the information. it was decided to retain the missing values and, if the exclusion is needed, the software which is used to analyse this data (i.e. STATA) would drop them automatically. Separately, it is worth noting that the retention of missing data can lead to another problem which is that of unbalanced data, however the problem of the unbalanced nature of panel data can be overcome by using appropriate estimation methods that also deal with the problem of heteroscedasticity (e.g. random effects or fixed effects regression and robust regressions).

Thirdly, extreme values or 'outliers' may lead to greater levels of residuals, extend the confidence interval and might result in biased parameter estimates. In order to solve this problematic feature of panel data, there are two techniques that can be used, namely employing appropriate estimation methods and the removal of these infrequent data. The latter technique seems to be unsuitable because the outliers probably contain important indications and their removal might lead to

inaccurate findings. Also, removing outlying values may result in newly emerging outliers. Therefore, as the removal of outliers is an unacceptable solution, using appropriate estimation methods is suggested (e.g. random effects or fixed effects regression and robust regressions).

On the other hand, it is suggested that there are four assumptions that should be met before using parametric tests; namely the assumptions of normality, linearity, homoscedasticity and independence of error terms (Gujarati, 2003). Generally, parametric tests are more appropriate and can produce more accurate estimates if all these assumption are met, and when all variables that are used in the analysis are measured on at least an interval scale (Judge et al., 1985). Nevertheless, if one or more of these assumptions is violated or is inaccurate, parametric methods can be a misleading approach and using non-parametric tests may be more effective (Balian, 1982). These assumptions are explained as follows:

1) Normality: this assumption requires that the data must be normally distributed. Two common tests or checks are used to examine the normality of the variables of this study; namely skewness and kurtosis. According to Haniffa and Hudaib (2006), statistically, data is considered to be normally distributed if the skewness value is ±1.96 and the kurtosis value is within ± 3.

2) Linearity: this assumption requires that the model should have linear parameters. In other words, the relationship between the explanatory variables (X) and the dependent variable (Y) should be linear. When this assumption is violated, using parameter methods will results into biased estimates (Ayyangar, 2007).

3) Homoscedasticity: under this assumption, the standard deviation or the variance of the dependent variable within the groups is required to be equal or homogenous. Otherwise, the problem of heteroscedasticity will arise if the error variance is heterogonous, which leads to biased standard errors and inefficient estimates.

4) Independence of error terms: this assumption requires that the error terms must be independent from each other, and thus no serial correlation must exist. In other words, parameter models demand that the error terms are uncorrelated and therefore the observations are uncorrelated. Otherwise, there is autocorrelation.

Furthermore, it is crucial to take into account the problem of multicollinearity in the model. When this problem exists, it means that there is intercorrelation among the predictors of the model. The problem of multicollinearity makes the coefficient unreliable and results in the impossibility of determining the relative importance of the independent variables as a result of inflation in the

standard errors. Two well-known techniques are employed in order to detect the problem of multicollinearity in the models. First, there is the variance inflation factors (VIF) test, where the tolerance factor and variance inflation factor of each corporate governance, ownership and remuneration consultant variables are computed. The existence of multicollinearity in the model can be discovered if the tolerance factor is close to zero and a value of the variance inflation factor is more than 10. Second, there is the Spearman rank correlation. This test requires that all the correlations between pairs of variables must be less than 0.80 to show that there is no problem of multicollinearity. Both the VIF test and the Spearman rank correlation confirm that there is no intercorrelation among the study's independent variables in either model.

4.5.1 Diagnostic Analysis of OLS Assumptions and Analytical Procedures for the First Empirical Model

The various checks that were discussed above were made to examine the data of this study against the assumptions of the OLS regression model. However, the results of the tests illustrate that the data does not meet the required criteria or conditions for the parametric tests, and shows that using parametric methods is an unacceptable approach with regard to estimating the models created in this study due to the nature and characteristics of the data. Consequently, non-parametric tests will be employed to analyse the data and a particular choice of estimation methods have been selected to handle the data problems.

The results for skewness and kurtosis (as will be demonstrated in the fifth chapter) indicate that most of the variables are positively or right skewed and thus non-normally distributed. However, other checks have been applied to confirm these findings. Although the Shapiro-Wilk test provides some evidence that the data is normally-distributed (i.e. values are significantly less than 1), the Kolmogorv-Smirnov test and the Quantiles plot confirm that the assumption of normality are not met. With respect to the assumption of homoscedasticity, the widely used Breusch-Pagan and White tests were employed to detect the problem of heteroscedasticity. The findings of both tests illustrate that the problem of heteroscedasticity exists. Finally, the Durbin-Watson test was used in this study since it is the most common technique that is employed to detect the problem of autocorrelation. The results of this test showed that the assumption of independence of the error terms was not met.

Along with other assumptions, the normality of error terms is demanded for the statistical tests to be valid (Ayyangar, 2007). In particular, OLS estimators become inefficient if the normality of the model is violated (Greene, 2007). Hence, the estimated standard errors and the results test statistics will be biased and inconsistent (Baltagi, 2001; Greene, 2007). It is suggested that two alternative

statistical solutions can be used to overcome the problem of non-normality. Firstly, transforming the data to adjust to parametric procedures by normalising it artificially or, secondly, employing other estimation methods which are robust and deal with the non-normality of variables (Dinga, 2011).

Statistically, it is suggested that data transformation helps in overcoming the problem of non-normality and outliers by artificially making the data normally distributed. Although this technique could affect the output of the analysis by changing the fundamental nature of the information which results in complicating any interpretation (see, Osborne, 2002), it has been found that using this technique for improving the normality of data is a valuable statistical method. Therefore, consistent with previous studies in executive compensation (e.g. Mangel and Singh, 1993; Boyd, 1994; Core et al., 1999; ; Brick et al., 2006; Sapp, 2008; ; Fahlenbrach, 2009; Conyon et al., 2009; Murphy and Sandino, 2010; Byrd and Cooperman, 2010; Knop, 2010; Cadman, 2010), this study will use the natural logarithm of all compensation components and firm sizes. Moreover, in order to check the consistency of the results, it was decided to utilise some appropriate estimation methods for non-normally distributed variables (e.g. robust regressions).

However, due to the impact of the problems of heteroscedasticity and autocorrelation, and the importance of these assumptions on pooled OLS, a GLS panel data regression was preferred over OLS regression (Greene, 2007). While the OLS estimation demands that the errors in each time period are uncorrelated with the predictors in the same time period, GLS regression has the additional advantages that it controls for the existence of autocorrelation and heteroscedasticity along with the correction for the omitted variables bias (Habbash et al., 2010).

Given the above discussion, the first empirical study employed the GLS regression over the five-year test period. It is suggested that this methodology strengthens the reliability of the coefficient estimates as it assumes that regression parameters do not differ between various cross-sectional units and do not change over time (Greene, 2007). Also, it allows for the examination for variations among cross-sectional units at the same time as for variations within individual units over time (Baum, 2006). Finally, there are two main approaches that are utilised to test for correlations within or between cress-sectional units; namely the least squares dummy variable (fixed effect) and the generalised least squares (random effect). A detailed comparison is provided below between these two approaches in order to identify the advantages of each, and to find out which one is most appropriate for the nature of this study's data.

Fixed-effect vs. Random-effect

The fixed effect model is an approach that estimates the fixed effect of predictors on the dependent variables by controlling for the constant variations coming from the omitted variables and for unobserved heterogeneity between groups over time. The assumption of this technique is that the individual specific effect is related to the regressors. The fixed effect approach works by removing much of the error variance that arises due to the distortions resulting from the individual differences between groups that come from the omitted variables or the unobserved heterogeneity that is correlated with the regressors.

However, this approach allows for correlations between the unobserved individual effects with the model's variables (Greene, 2007). That is, problems of autocorrelation or heteroscedasticity that affect estimation arise from time or group specific variations and cannot be handled using this model. Greene (2007) suggested that assuming that the intercept is a random outcome of variables is a preferred way for handling errors. The random outcome is the sum of a mean value and a random error. Models with such specifications are known as random effect models (Dinga, 2010).

Random effect models assume no individual or fixed effects, and thus consider the individual specific constant terms as being randomly distributed within or between the cross-sectional groups (Greene, 2007). Judge et al. (1985) suggested that the statistical assumption is dependent on the observed cross–sectional units in the sample. For instance, when there is a large number of cross-sectional units and the number of time series data is small, random effect models are desirable. Moreover, Greene (2007) suggested that the fixed effect models cannot be generalised outside the sample under consideration, and it may only be an appropriate approach to use in cross-sectional examinations. Also, he assumed that the individual specific constant terms must be seen as randomly distributed across cross-sectional firms if the sample is collected from a large population.

Therefore, as this study is drawn from a relatively large population, the FTSE 350 Index, and has a large number of cross-sectional units and covers five years of time series, this means that the above viewpoints may apply and therefore it is likely to be more accurate to employ the random effect approach. However, in order to justify this choice statistically, research in economics usually utilises the Hausman's test (e.g. McKnight and Weir, 2009).

The Hausman test (1978) is used to statistically make the choice between fixed and random effect models. The main purpose of this common test in the literature is to check for strict exogeneity, and works by facilitating the differentiation between these two approaches by examining for correlations

between the independent variables and the individual random effects. The results of this test can be interpreted as follows. If the correlation between X variables and εi is found to be:

1) Significant or less than 0.05, then the fixed effect approach is preferred.

2) Insignificant or more than 0.05, then the random effect approach is preferred.

Therefore, under the Hausman specification test, the assumptions for the choice of (1) the fixed effect approach is that the X variables must be significantly correlated to the unobserved heterogeneity, and (2) the random effect approach is that the X variables must be insignificantly correlated to the unobserved heterogeneity.

Following previous research, the Hausman test has been used to test this assumption and to find out which approach is more relevant to the data. According to this test, the random effect approach is supported by the non-significant correlation between the X variables and the individual random effects εi.

Table 4.3 The Hausman test results
Test: Ho: difference in coefficients not systematic
chi2(22) = (b-B)'[(V_b-V_B)^(-1)](b-B)   = 15.08
Prob>chi2 = 0.8587

Therefore, based on the above statistical justification by Greene (2007) and Judge et al. (1985), and the Hausman's test result, the random effect model is chosen in the primary analysis. However, in order to check the results' robustness and sensitivity to alternative specifications, the fixed effects regression will be used in the sensitivity analysis section.

Given the above discussion, this study employed a GLS random effects model to examine the first empirical study's hypotheses. The data analysis and statistical software package that is used for analysis in this research is the computer programme STATA 10, which provides a variety of options to check and analyse the data for research purposes.

4.5.2 Diagnostic Analysis of OLS Assumptions and Analytical Procedures for the Second Empirical Model

The data analysis of the OLS assumptions for the second empirical model gives a clue that the data has less problematic features than that of the first empirical model. For example, while most of the governance and ownership variables of the first model are highly skewed according to the skewness

test and thus not normally distributed, the consultant's variables in the second model are considered to be normally distributed statistically. Moreover, the data of the second model is found to be less heteroscedastic than that of the first empirical model. However, although the residuals seem to be more normal and identical, the diagnostic analysis shows that the assumptions of parametric techniques are not fulfilled, and thus using OLS regression is still an inappropriate option as not all the parametric tests are met. Therefore, different methodological techniques and estimation methods will be applied in the analysis of the second empirical model.

As mentioned above, the tests of skewness and kurtosis are made to examine the normality assumption. According to Haniffa and Hudaib's (2006) valuation, the independent variables (i.e. remuneration consultant variables) are within the accepted range and thus normally distributed. However, all dependent variables (as will be demonstrated in the sixth chapter), together with some control variables, are still non-normally distributed and thus the assumption of normality in the model is still violated.

Statistically, it is suggested that data transformation helps in overcoming the problem of non-normality and of outliers, by artificially making the data normally distributed. Although this technique could affect the output of the analysis by changing the fundamental nature of the information which could result in complicating interpretations (see Osborne, 2002), it has been found that using this technique for improving the normality of data is a valuable statistical method. Moreover, all previous studies that have investigated the relationship between CEO compensation and remuneration consultants have transformed their data (Minhat, 2008; Conyon et al., 2009; Cadman et al., 2010; Murphy and Sandino, 2010; Goh and Gupta, 2010; Voulgaris et al., 2010; Conyon et al., 2011). Therefore, this empirical study will use the natural logarithm of all compensation variables and some of the firm and economic variables such as firm size, in order to control for the problem of non-normality and to produce comparable findings with those of previous studies.

In order to test for the assumption of homogeneity, two main numerical tests of the Breusch-Pagan and the White tests, are used to check for the identity or constancy of variances of residuals. According to the White test, the p-value is relatively small, which rejects the hypothesis of homogeneity and accepts the alternative hypothesis that the variance is not homogenous. Also, the graphical plot (i.e. rvfplot) gives similar results and shows that the variances are more likely to be heteroscedastic at either ends or tails. Conversely, the p-value of the Breusch-Pagan test is non-significant, implying that there is strong evidence to accept the hypothesis of homogeneity from the higher p-values for the Chi-squared statistics. Greene (2007) argued that the Breusch-Pagan test

seems to be more powerful than White's test which is found to be extremely general. Therefore, based on these mixed findings, it might be difficult to determine whether the variances of the residuals are homoscedastic or heteroscedastic. However, in order to ensure valid statistical inference and to avoid any diagnostic conflicts, the problem of heteroscedasticity is taken into consideration in the process of selecting the estimation method and the most robust technique for this empirical model.

Finally, in the longitudinal data values that are generated from the same variable over time, and when there can be some aspects of homogeneity among the factors in a group, it is more likely that the errors of different observations can be correlated (autocorrelation of errors) with the adjacent group or time, than those separated in time or in heterogeneity. Therefore, the well-known Durbin-Watson test was used to examine the independence of the residuals. The test showed that the observed value of DW statistics here was 0.870429, which is less than 2 (which is the midpoint of the range of the statistics that is from 0 to 4). The Durbin-Watson lower and the upper critical values for the statistic are 1.78456 and 1.91930 respectively. Accordingly, the Durbin-Watson value is below the lower Durbin-Watson statistic and thus rejects the null hypothesis that the residuals are independent.

Therefore, using OLS regression seemed to be inappropriate as not all the parametric tests were met. Alternatively, this study suggests that using appropriate methodological techniques and estimation methods will help in overcoming these problems. As the data is supposed to be normally distributed after the transformation, one suggested alternative is to use least square estimation by controlling for autocorrelation and potential heteroscedasticity using robust estimation procedures such as Huber-White's sandwich and clustering robust methods. It is common to use 'robust' standard errors when some of the assumptions of the underlying regression models such as independence of distributed residuals and homoscedasticity are not met (Hoechle, 2007). An attractive feature of using robust techniques is that they produce the same coefficient estimates as the OLS estimation, but control for problematic features of the data. The differences or the effects of robust estimations mainly appear in the significance and the confidence levels, the standard errors and t-values.

The most common of these alternative robust estimators is Huber-White sandwich estimation that was developed by Huber (1967), Eicker (1967) and White (1980). This robust technique produces robust standard errors that can deal with some violations of identity of variances and thus standard errors that are obtained by this technique are consistent, even if the residuals are not homogenous. Arellano (1987) expanded the Huber-White work and proposed a cluster-robust estimator to relax

the assumption of independently distributed residuals and thus control for autocorrelation together with dealing with the problem of heteroscedasticity (Hoechle, 2007). Clustering robust estimation is a robust technique that allows for the violation of independent errors or residual assumptions. This technique produces consistent standard errors if the residuals are correlated within the groups (Hoechle, 2007; Greene, 2007; Dinga et al., 2010).

Moreover, in panel analyses, where cross-section individuals are followed over time, the cluster robust estimation is appropriate since it corrects for heteroscedasticity problem in the cross-section and other general forms of serial correlation over time (Vogelsang, 2008). Therefore, clustering robust estimation is used in the primary analysis of this empirical study since it accounts for the problems of autocorrelation and heteroscedasticity.

4.6 Overall Summary

In this chapter, a detailed description of the measurements of CEO compensation, governance, ownership, remuneration consultants and control variables, together with the research's hypotheses development, has been provided. The general models were developed to investigate the relationships between executive compensation and boards of directors, remuneration committees, ownership structure and remuneration consultants' attributes. Next, details about sample selection and data collection procedures were provided. Finally, this study has provided an extensive investigation of the methodological and analytical procedures that were followed in order to rationally select the most appropriate statistical methods.

A challenging issue arising from the executive compensation literature is in identifying the fundamental nature of the components and measuring the different compensation elements that comprise the total compensation package. Cash compensation components (i.e. salary, bonuses, benefits, allowances, etc.) do not include complex measures and are usually provided directly by the remuneration reports in the firms' annual reports. However, the non-cash components are of a different nature and need to be paid more attention since they are more complex than the cash components. Two main components were used in this study; namely LTIPs and ESOs. Following the previous literature, LTIPs were measured using the face value of the scheme based on the share price on the grant date, whilst ESOs were evaluated using the Black-Scholes-Merton formula for European call options.

Furthermore, generally, the measurements of the governance and ownership variables have been shown to be consistent with the previous studies that investigated issues related to corporate governance. However, a slight different exists in the measurement of the proportion of independent

directors on the board and remuneration committees, and the measure of chairman independence. The UK Corporate Governance Code's criteria have been applied to evaluate the independence status of each individual, in order to provide more accurate measurements of board, remuneration committee and chairman independence.

This study uses two main sources of data; namely, annual reports and DataStream. CEO compensation, governance, ownership, remuneration consultants and CEO human capital variables were manually collected from the firms' annual reports. Financial and market data were gathered from DataStream, and some of them calculated using Excel. Data was collected for the fiscal year corresponding to 2004-2008 to provide the most recent investigation, and to investigate the impact of the UK Corporate Governance Code (2003) and the Directors' Remuneration Report Regulations (2002) on remuneration practice. The data is based on firms listed in the FTSE 350, since some of the Code's recommendations gave exceptions to smaller firms and some of the provisions do not apply to firms below the FTSE 350. Financial and investment firms are excluded from the sample due to the different nature of their accounting practices.

Selecting the appropriate estimation methods is a very critical step when conducting any research because only the correctly chosen methods will ensure that the study's objectives will be achieved. In order to determine the validity of using parametric techniques in performing the analysis aspect of the study, a careful examination of possible problems related to the nature of the data was conducted. In general, most of the assumptions or the conditions of parametric methods were not met, and thus using non-parametric techniques was suggested for statistical reasons. Since the problems of heteroscedasticity and autocorrelation are suspected in the model, a GLS regression was preferred over pooled OLS regression, as it assumed that it was able to control or correct for such problems. Moreover, according to the statistical justifications by Greene (2007) and Judge et al. (1985), and the Hausman test results, the random effect model was chosen in the primary analysis using the first empirical model.

In terms of the second empirical model, several checks were made to diagnose the problematic features of the data and to determine the appropriate statistical technique and estimation method for testing the hypotheses. According to the results of these tests, it was decided to use cluster robust estimation in the primary analysis, as it is statistically argued to be appropriate for controlling the problems of heteroscedasticity and autocorrelation. Finally, the CEO compensation, governance, ownership and control variables and their descriptions are presented in Table 4.3 below.

Table 4.4 CEO Compensation, Governance, Ownership, Remuneration Consultants, and Control variables and their descriptions

Symbol	Variable name	Descriptions and measures	Source of data
Compensation variables: Dependent variables			
SALARY	Annual salary	The natural logarithm of CEO salary	Annual Reports
BONUS	Annual cash bonus	The natural logarithm of CEO bonus	Annual Reports
TOTCASH	Total cash compensation	The natural logarithm of the sum of salaries, bonuses and other short-term compensation	Own calculation
LTIPs	Long-Term Incentive Plans	The natural logarithm of LTIP share grants, valued at the face value of the shares on the grant date	Annual Reports
ESOs	Executive Stock options	The natural logarithm of CEO stock options, valued using Black-Scholes (1973) formula	Annual Reports
TOTLONG	Total long-term compensation	The natural logarithm of the sum of LTIPs, ESOs and other long term compensation	Own calculation
TOTAL	Total compensation	The natural logarithm of the sum of short- and long-term compensation	Own calculation
Governance variables: Independent variables			
BSIZE	Board Size	The number of directors on the board.	Annual Reports
NED	Non-executive Directors	The proportion of non-executive directors to total board members	Annual Reports
IND	Independent Directors	The proportion of independent directors to total board members	Annual Reports
DUAL	CEO-duality	Duality, takes the value 1 if the CEO sits on the board as Chairman, 0 otherwise	Annual Reports
NEDPAY	NED Compensation	The natural logarithm of total non-executive directors pay on the board's divided by their number	Annual Reports
CHAIRIND	Chairman Independence	A dummy variable that takes the value of 1 if the chairman is independent according to the chairman independence criteria recommended by the Code and 0 otherwise.	Annual Reports
RCSIZE	RC size	The number of directors on the committee.	Annual Reports
RCIND	RC Independence	The proportion of independent directors on the committee	Annual Reports
RBDUAL	RC-Board Duality Chairmanships	Duality takes the value 1 if the chairman of the remuneration committee sits on the board as the chairman, 0 otherwise	Annual Reports
RCTEN	RC Tenure	The total tenure of remuneration committee members divided by their number	Annual Reports
RCPAY	RC Compensation	The natural logarithm of total remuneration committee members' pay divided by their number	Annual Reports
CEOs	CEOs of other firms on the RC	The number of other firms' CEOs on the remuneration committee divided by the remuneration committee size	Annual Reports
Ownership variables: Independent variables			
CEOOWN	CEO ownership	The total shares held by the CEO divided by the total number of shares.	Annual Reports

CHOWN	Chairman Ownership	The total shares held by the chairman divided by the total number of shares.	Annual Reports
INSOWN	Institutional Ownership	Institutional ownership; the proportion of aggregate blocks of at least 3% of the firm's outstanding shares held by all institutional investors	Annual Reports

Remuneration Consultant variables: Independent variables

USECON	The use of consultant	Dummy variable, takes the value 1 if firm uses one or more remuneration consultants, 0 otherwise	Annual Reports
NCONS	Number of consultants	The number of remuneration consultants used in the fiscal year	Annual Reports
OTHER	Providing other services	Dummy variable, takes the value 1 if the remuneration consultant provide other services to the client firm, 0 otherwise	Annual Reports
APPOINT	The appointment process	Dummy variable, takes the value 1 if the remuneration committee appointed the remuneration consultant, 0 otherwise	Annual Reports
SPEC	Specialised consultant	The proportion of specialised remuneration consultants	Annual Reports
USELEGA	Legal advisor	Dummy variable, takes the value 1 if the remuneration committee receive legal advice from an external legal advisor, 0 otherwise	Annual Reports
SWTCH	Consultant turnover	Dummy variable, takes the value 1 if at least one of the remuneration consultants has been replaced during the year, 0 otherwise	Annual Reports

Control Variables

CEOAGE	CEO Age	The age of the chief executive officer in years	Annual Reports
CEOTEN	CEO Tenure	Number of years since appointment as CEO	Annual Reports
TOTASSET	Total Assets	The natural logarithm of the book value of total assets as a proxy for firm size	DataStream
ROA	Return on Assets	The lagged return on assets as a proxy for accounting-based performance	DataStream
RET	Stock Return	The lagged stock return as a proxy for market-based performance	DataStream
M2B	Market-to-Book Value	Market-to-book ratio as a proxy for growth opportunities	DataStream
LEV	Leverage Ratio	Total long-term debt divided by total assets.	DataStream
VOL	Stock Volatility	Stock price volatility as a proxy for firm risk	DataStream

Chapter Five

Corporate Governance, Ownership Structure, and CEO Compensation: Data Analysis and Discussion

5.1 Introduction

This chapter presents and discusses the findings of the data analysis using the research methods that were discussed in the methodology chapter. Descriptive analyses, and univariate and multivariate tests were performed with the objective of providing empirical evidence to answer the main study question: *To what extent do corporate governance mechanisms constrain opportunistic managerial behaviour by reducing CEO compensation and setting appropriate executive compensation package in the UK?*.

In this chapter, the hypotheses developed in the methodology chapter are tested using the first empirical model which was also developed in the previous chapter. Section 5.2 demonstrates and discusses the descriptive statistics and univariate analysis. Section 5.3 illustrates the correlation coefficients. Section 5.4 presents and discusses the findings of the hypotheses' testing. Section 5.5 discusses the sensitivity and consistency analysis. Finally, Section 5.6 summarises the chapter and results.

5.2 Descriptive Statistics and Univariate Analyses

This section discusses the descriptive analyses for CEO compensation variables and the descriptive analyses and univariate tests for corporate governance and ownership variables. This study uses simple descriptive statistics which include minimum, maximum, median, mean, standard deviation, skewness and kurtosis, in terms of the attributes chosen. This identifies the state and direction of the variables. Additionally, the average values (the mean) of the variables for the pooled sample are analysed, taking account of the differences between industries and between years.

The mean of CEO compensation and governance variables accounting for difference between years (i.e. year-to-year descriptive statistics) of the variables, are used to examine the evolution, changes, directions and developments of these variables during the period, along with the mean of the pooled sample. The following section discusses the descriptive analyses and the univariate tests. Even though the data is statistically considered to be non-parametric, both parametric (t-test) and non-parametric (z-value) tests are employed in order to ensure robustness.

5.2.1 Descriptive Statistics for CEO Compensation

Table 5.1 represents the descriptive statistics of all CEO compensation variables (i.e. SALARY, BONUS, TOTAL SHORT-TERM, LTIP, ESOs, TOTAL LONG-TERM and TOTAL) of the research sample which contains 1,080 observations. All remuneration variables are presented in UK pounds sterling. The average of total compensation is £2,425,400 with median of £1,424,700, and a range from £145,370 to £23,634,000. The CEO base salary of the sample has an average of £566,000 and a median of £480,000. The mean (median) of cash bonus, total short-term compensation, LTIPs, ESOs, and total-long term compensation are £490,320 (£301,340), £1,152,200 (£818,000), £927,070 (£401,600), £149,890 (£0), £1,273,300 (£72,300), and £1,273,300 (£544,110), respectively. These findings are similar to Minhat (2008) which documents median CEO pay of £1,403,000, with a range from £149,000 to £22,792,000 on a sample of UK firms in the period 2003-2006.

Table 5.1 Descriptive statistics of CEO compensation variables for the pooled sample								
Variables	**N**	**min**	**mean**	**max**	**median**	**Sd**	**skewness**	**Kurtosis**
SALARY	1080	60	566.35	3154	480	326.06	2.3436	12.259
BONUS	1080	0	490.32	7191.7	301.34	687.6	4.7338	36.836
TOTAL SHORT-TERM	1080	145.37	1152.2	9618.5	818	997.25	3.1252	17.792
LTIPs	1080	0	927.07	15644	401.6	1805.2	4.905	32.94
ESOs	1080	0	149.88	5338.7	0	508.15	6.4542	52.594
TOTAL LONG-TERM	1080	0	1273.3	18235	544.11	2267.9	4.0155	22.603
TOTAL	1080	145.37	2425.4	23,634	1424.7	2937.1	3.4002	17.2

The descriptive analysis shows that that both skewness and kurtosis indicate that most of the variables are not normally distributed. According to Haniffa and Hudaib (2006) data is statistically considered to be normally distributed if the skewness value is ±1.96 and the kurtosis value is within ± 3. It is suggested that data transformation helps in overcoming the problem of non-normality and outliers, by artificially making the data normally distributed. Therefore, consistent with previous studies which focus on executive compensation, this study will use the natural logarithm of all compensation components and firm size.

Statistically, it is suggested that the median is less likely to be affected by outliers or extreme values, as it uses the centre value of the sample's observations. The median of all variables is less than their corresponding means for the sample, implying that the higher values lie to the left of the distribution, which confirms their positive skewness. Therefore, it is assumed to be a better proxy of central tendency. However, since the mean and the median values are relatively close to each other, it might be suggested that relying on the mean for the central tendency is an acceptable procedure.

Figure 5.1 and Table 5.2 present the average CEO compensation variables accounting for the differences in industry types. It is obvious that ITS CEOs receive the lowest compensation compared with their counterparts in other sectors, and the average of the pool sample, except for ESOs which are found to be the highest with regard to ITS. That is, CEOs of ITS firms are found to obtain lower SALARY, BONUS, TOTAL SHORT-TERM, and TOTAL by around 20% compared with the mean of this study's pool sample, and lower LTIPs and TOTAL LONG-TERM by 29% and 18%, respectively. However, surprisingly, they are found to receive higher ESOs - by 93% - than the pool sample average.

Figure 5.1: Evolution of CEO compensation variables accounting for difference in industry sectors, pool sample of 2004-2008
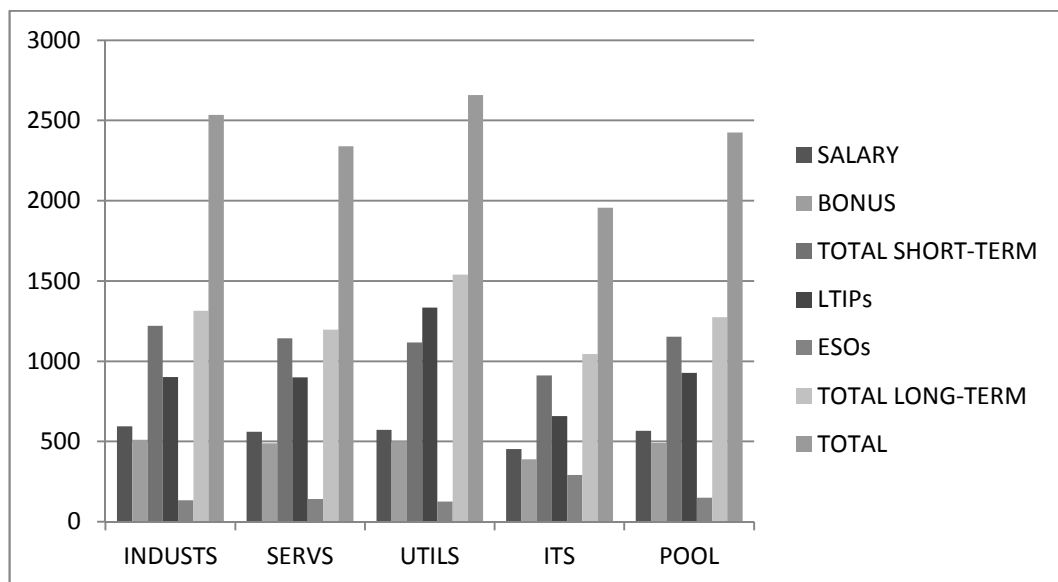
Table 5.2 Mean of CEO compensation variables in 1000s accounting for difference in industry sectors, and pool sample of 2004-2008

Variables	INDUSTS	SERVS	UTILS	ITS	POOL
SALARY	593.54	560.03	572.89	452.72	566.35
BONUS	509.66	489.53	500.8	388.24	490.32
TOTAL SHORT-TERM	1219.5	1142.3	1116.9	911.36	1152.2
LTIPs	901.83	898.64	1334.9	658.18	927.07
ESOs	133.5	140.98	126.62	290.33	149.88
TOTAL LONG-TERM	1314.1	1196.3	1540.2	1045.9	1273.3
TOTAL	2533.7	2338.6	2657.1	1957.2	2425.4

On the other hand, the highest cash compensation components are found to be received by INDUSTS' CEOs. As noted in the Table, managers in the industrial sector are awarded higher SALARY, BONUS, and TOTAL SHORT-TERM by around 5%, 4%, and 6%, respectively. Furthermore, with respect to long term and total compensation, UTILS executives are found to receive more LTIPs, TOTAL LONG-TERM, and TOTAL by 44%, 21%, and 9.5%, respectively.

Table 5.3 Mean of CEO compensation variables accounting for difference between years

Variables	2004	2005	2006	2007	2008	POOL
SALARY	489.88	528.73	558.6	599.4	641.39	566.35
BONUS	390.1	423.75	521.24	612.97	486.14	490.32
TOTAL SHORT-TERM	965.23	1031.1	1174.2	1319.5	1236.9	1152.2
LTIPs	631.42	842.98	1057.6	1016.5	1046.3	927.07
ESOs	221.85	159.24	211.75	122.91	47.157	149.88
TOTAL LONG-TERM	1033.1	1189.2	1489.2	1346.8	1279.2	1273.3
TOTAL	1998.3	2220.3	2663.4	2666.3	2516	2425.4

Table 5.3 presents the change in the means with regard to CEO compensation variables during the period of the study. As demonstrated in the Table and in Figure 5.2, SALARY had gradually increased during the period of the study by around 31% from £489,880 in 2004 to £641,390 in 2008, while BONUS and TOTAL SHORT-TERM reached their peaks in 2007 and increased by 57% and 36% from £390,100 to £612,970, and from £965,230 to £1319,500, respectively, by the end of 2007. However, they fell by around 20% and 6% in the following year. This decrease might be related to the global financial and economic crises in 2007.

Figure 5.2: The trends of the CEO salary, bonus, and total short-term compensation means during the period 2004-2008
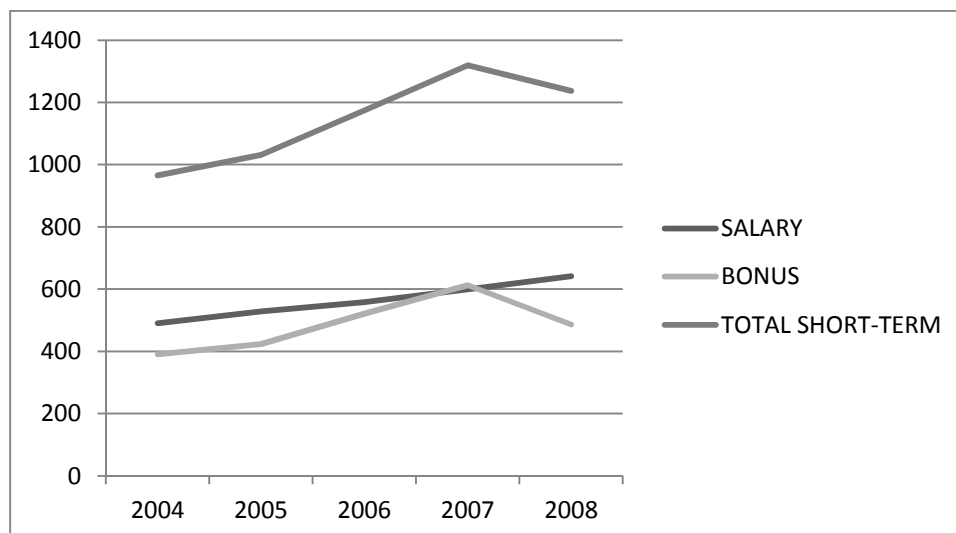
Figure 5.3: The trends of the changes in the firms' policies in selecting LTIPs and ESOs during the period 2004-2008
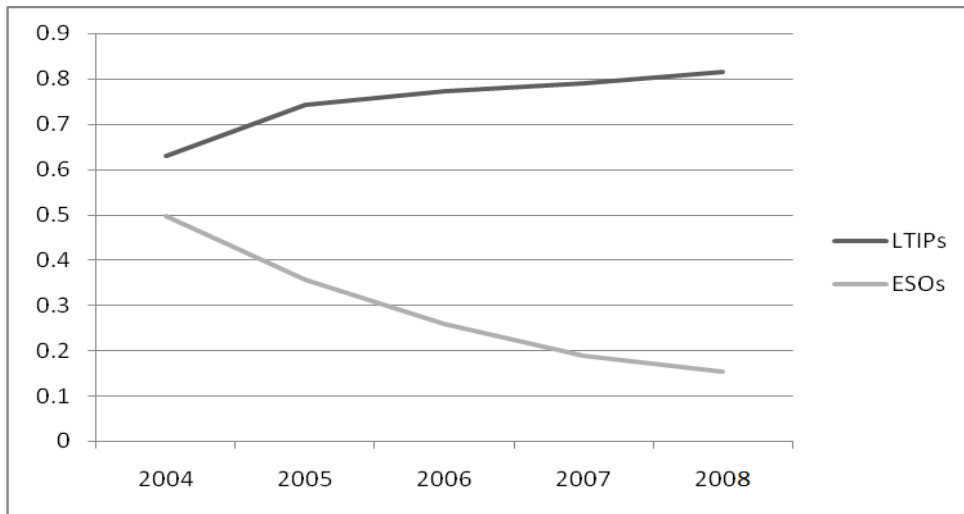
Additionally, the CEO long-term or non-cash components show some significant changes during the period under review. As shown in Table 5.3 and Figure 5.4, the firms in the study's sample had increased their awards in terms of LTIPs schemes by around 66% during the period under consideration. Unlike other components, even though this component reached its peak in 2006, it kept the same level, with slight differences during the following two years (i.e. 2007 and 2008). On the other hand, ESOs dropped sharply by around 79% (i.e. from £221,851 to £47,157) between 2004 and 2008.

Figure 5.4: The trends of the changes in the values of LTIPs and ESOs during the period 2004-2008
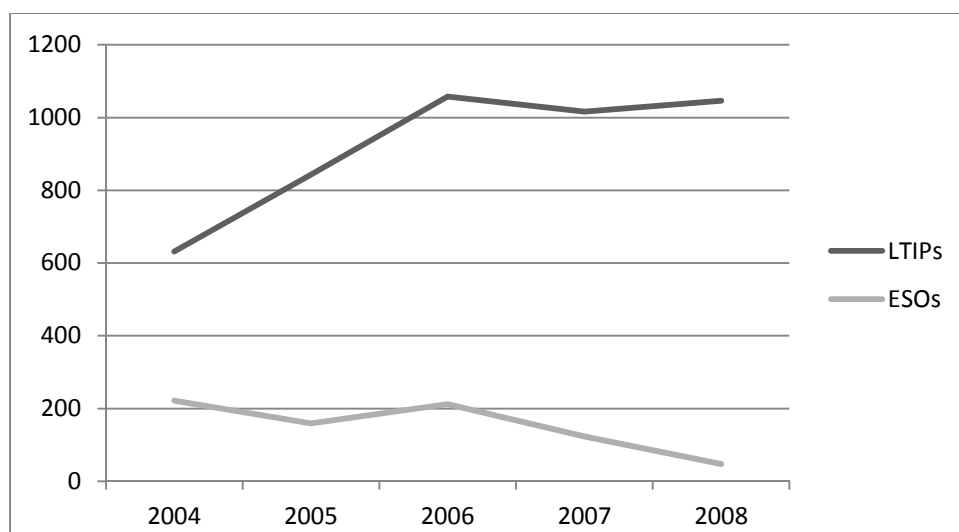
Figure 5.4 demonstrates the changes in the values of the study's two long-term components and Figure 5.3 illustrates the changes in the firms' policies in selecting between these two components.

As can be noted from these two charts, around 62.9% of the companies granted their CEOs LTIPs in 2004. However, this percentage increased dramatically to 81.5% in 2008. On the other hand, there was a considerable decrease in the firms that awarded their CEOs ESOs. For example, while in 2004 around half of the CEOs (49.7%) in the sample were granted ESOs, just 15.3% of them received ESOs in 2008. The latter finding can be explained by the requirements of the Greenbury Report, also known as the Study Group on Directors' Remuneration, which stated that when issuing new long-term incentive plans firms should, replace, not supplement, existing stock option plans. These findings suggest that, in order to comply with this recommendation, firms tended to change their remuneration policies with respect to the long-term components by replacing the executive stock option plans with Long-Term Incentive Plans.

Figure 5.5: The trends of the changes in the values of total short-term and total long-term compensation during the period 2004-2008
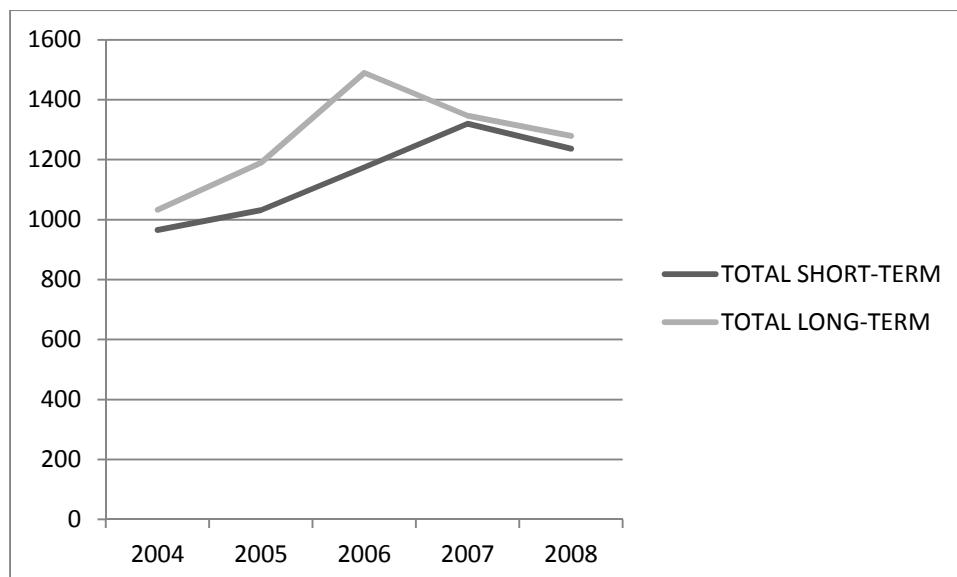
Finally, from Table 5.3 and Figure 5.5, it can be seen that total long-term compensation peaked in 2006 then dropped thereafter, whereas total short-term compensation reached its highest value in 2007. However, it is obvious that there is no clear trend with regard to firms' remuneration policies in determining the composition of short-term and long-term components. That is, while the difference between the total short-term and total long-term compensation increased gradually from 2004 to 2006, from 6.5% to 21%, it dropped sharply in 2007 and 2008 by around 2% and 3%, respectively.

5.2.2 Descriptive Statistics and Univariate Tests for Corporate Governance and Ownership Variables

From the descriptive statistics of board of directors variables, as presented in Table 5.4, it is clear that the average board size was 9 (mean=9.17), whereas the largest and the smallest were 21 and 3 directors, respectively. These findings are completely consistent with Ozkan (2007a), with a slight difference in the minimum board size (which in Ozkan's study was 4 in a sample of UK firms). Board size in the UK appears to be smaller than board size in the US. For example, Yermack (1996) and Core et al. (1999) found that the average US board size was 12.25 and 13 directors, respectively. However, in a more recent study in the US, Fahlenbrach (2009) found that the mean board size was 10 directors. As shown in Table 5.5, consistent with the overwhelming majority of the previous studies, larger boards are found to be associated with greater level of CEO compensation.

Table 5.4 Descriptive statistics of board of directors variables for the pooled sample

Variables	N	Min	mean	max	median	sd	skewness	Kurtosis
BSIZE	1085	3	9.17	21	9	2.45	0.77	3.84
NEDs	1085	0	0.57594	0.92	0.57	0.13175	-0.32183	4.0074
INDs	1085	0	0.51391	0.92	0.5	0.1303	-0.47371	4.1787
DUAL	1085	0	0.05899	1	0	0.23571	3.7438	15.016
NEDPAY	1085	0	50.34	249.6	42.571	36.689	2.1483	10.291
CHAIRIND	1075	0	0.26128	1	0	0.43952	1.0868	2.181

The descriptive statistics of the proportion of non-executive directors on the board (NEDs) indicates that, on average, 57.5% of the directors on the board in the sample were non-executive directors with almost the same median (57%). These findings support those of Ozkan (2007a) who found a similar average in terms of NEDs (i.e. 56%), and implied that the UK boards are comprised of relatively fewer NEDs compared to US boards. For example, Fahlenbrach (2009) found that 73% of US boards are composed of non-executive directors. Surprisingly, this proportion is found to play a significant role in increasing all CEO compensation components.

Moreover, the proportion of independent directors (INDs) according to the Code's NEDs' independence criteria, shows that, on average, around half of the boards (51%) (Median=50%) consist of independent directors, which illustrates a high degree of compliance with the Code's recommendations. That is, provision A.3.2 of the UK Corporate Governance Code (2003) states that at least half of the board should be comprised of independent non-executive directors. However, consistent with the correlations of NEDs, the tests show that NEDs are found to positively and significantly affect all CEO compensation components, including total compensation.

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Table 5.5 Univariate Tests

	SALARY		BONUS		TOTAL SHORT-TERM		LTIPs		ESOs		TOTAL LONG-TERM		TOTAL	
	t-value	z-value	t-value	z-value	t-value	z-value	t-value	z-value	t-value	z-value	t-value	z-value	t-value	z-value
BSIZE	19.37***	7.23***	11.54***	5.06***	15.51***	5.5***	11.09***	4.44***	6.97***	3.85***	12.81***	4.38***	15.41***	4.62***
NEDs	16.13***	6.82***	11.01***	6.49***	15.06***	7.38***	7.55***	3.65***	5.73***	0.76	10.41***	4***	13.24***	5.26***
INDs	11.82***	6.52***	7.22***	3.43***	10.61***	4.87***	7.51***	4.44***	4.79***	-0.15	9.7***	4.36***	11.19***	4.92***
DUAL	1.67*	0.91	-3.24***	-1.36	-1.82*	-0.63	-2.93***	-1.63	-1.97**	-2.35**	-2.82***	-2.43**	-2.79***	-2.28**
NEDPAY	31.98***	19.12***	12.49***	5.3***	21.81***	10.15***	13.24***	7.6***	5.41***	-1.03	14.88***	6.83***	19.23***	8.47***
CHAIRIND	0.66	-0.02	-0.34	-0.27	0.38	-0.31	1.74*	0.87	-0.12	0.92	0.76	0.86	0.71	0.65
RCSIZE	7.81***	3.26***	4.71***	2.95***	6.43***	3.51***	4.56***	2.2**	3.68***	1.73*	4.79***	2.12**	5.88***	2.78***
RCIND	-0.27	1.13	-2.89***	-1.14	-1.87*	-0.25	1.15	1.85*	-0.86	-0.82	0.28	1.35	-0.41	1.18
RBDUAL	-0.76	-1.85*	-1.31	-1.1	-1.49	-1.73*	-1.36	-1.43	-0.25	0.84	-0.86	-1.32	-1.82*	-1.71*
RCTEN	2.37**	3.68***	-2.51**	-2.07**	-0.95	-0.47	-0.97	-0.83	-1.52	-0.78	2.33**	-0.51	-0.98	-0.59
CEOs	3.67***	2.11**	3.4***	2.09**	3.95***	2.1**	0.57	0	5.22***	1.29	12.19***	0.54	3.13***	0.97
RCPAY	20.09***	11.34***	11.73***	4.86***	17.13***	6.9***	11.3***	5.52***	4.19***	-0.21	2.33**	4.61***	15.42***	5.58***
CEOOWN	-1.6	3.1***	-2.99***	-3.99	-2.33**	-2.54**	-2.88***	-1.12	-2.07**	-1.01	-3.35***	-1.22	-3.38***	-1.71*
CHOWN	-3.15***	-1.47	-3.23***	-1.82*	-3.62***	-1.86*	-3.43***	-2.03**	-1.9*	-0.53	-3.84***	-2.03***	-4.2***	-2.13**
INSOWN	-3.1***	1.38	-1.81*	-0.9***	-2.28**	-0.37	-2.12**	0.23	-3.3***	-1.31	-3.85***	-0.42	-3.73***	0.06
CEOAGE	4.74***	5.49***	2.01**	2.54**	3.12***	3.54***	0.98	-0.11	0.47	0.82	1.23	-0.3	1.99**	0.8
CEOTEN	1.45	9.55***	1.43	1.6	1.28	3.82***	-0.15	0.67	-0.84	-0.12	0.41	0.8	0.74	2.01**
TOTASSTs	17.91***	9.48***	11.2***	5.54***	14.5***	6.68***	14.91***	8.81***	6.05***	0.39	13.89***	6.41***	16.01***	6.73***
ROA_{-1}	2.72***	1.04	3.56***	2.22**	3.96***	2.27**	4.56***	4.33***	-0.64	-1.65*	3.58***	4.01***	4.09***	4.34***
RET_{-1}	-3.59***	-6.94***	1.32	3***	-0.72	0.06	-1.36	-1.6	0.96	1.95*	-1.04	-1.07	-1.04	-0.94
M2B	0.76	0.03	1.03	0.01	1.56	0.88	3.18***	2.72***	-0.16	-0.54	2.56**	2.11**	2.51**	2.11**
LEV	-0.06	-0.42	-2.39**	-3.24***	-1.72*	-2.94***	-0.73	-0.69	-1.62	-1.09*	-1.69*	-1.79*	-1.88*	-2.62***
VOL	-5.53***	-1.46	-5.27***	-5.71***	-5.65***	-5.68***	-3.51***	-2.8***	-1.4	0.22	-3.77***	-2.64***	-4.67***	-3.89***

Legend: * p<.1; ** p<.05; *** p<.01

Regarding the CEO-chairman duality, the descriptive statistics demonstrate that around 6% of the CEOs of the firms in the sample chair the board of directors, whilst around 94% of the firms separate these roles. This result shows a great level of firms' compliance, but not a complete one, with the different reform actions' recommendations (which emphasise the importance of two individuals occupying these positions). However, it is found that CEOs who are chairmen of boards received less total compensation.

The average of non-executive directors pay (NEDPAY) is £50,340 with a median of £42,571. This result indicates that the UK non-executive director receives relatively similar levels of pay to US ones. For example, Brick et al. (2006) using a sample of US firms, found that the US director is awarded, on average, $67,225 (£47,000). As expected, the average of non-executive directors' compensation is found to be positively and significantly correlated with all CEO compensation variables.

Finally, the measure for chairman independence (CHAIRIND) shows that 26% of the sample firms had independent chairmen at the time of their appointment. Unlike other variables, this variable's finding illustrates a relatively low compliance rate with the UK Corporate Governance Code's recommendations on chairman independence (provision: A2.2), which implies that firms might face difficulties in complying with this provision due to the different nature of the position of chairman. Moreover, this variable is found to have no impact on any CEO compensation variables.

Table 5.6 Descriptive statistics remuneration committee variables for the pooled sample								
Variables	N	Min	mean	max	median	sd	skewness	Kurtosis
RCSIZE	1079	2	3.8193	8	4	1.0008	0.80062	3.5459
RCIND	1079	0	0.89326	1	1	0.18204	-2.0061	7.7649
RBDUAL	1077	0	0.06221	1	0	0.24165	3.625	14.141
RCTEN	1075	0	3.8541	37	3.5	3.0915	4.7453	40.455
CEOs	1075	0	0.13234	1	0	0.19912	1.6212	5.8093
RCPAY	1079	0	62.422	98.33	48	52.409	4.1351	26.79
NCONs	1084	0	1.6633	6	1	1.1386	0.95914	3.639

Table 5.6 demonstrates the descriptive statistics of the remuneration committee variables. The average in terms of remuneration committee size (RCSIZE) is around 4 directors (mean=3.8) with a median of 4. This finding is in line with that of Johnston (2007) who found an identical average for remuneration committee size in a sample of UK firms. Moreover, this result implies that UK firms follow the Code's requirements in terms of the remuneration committee size, which states that the board should establish a remuneration committee of at least three non-executive independent

directors (provision: B.2.1). Unexpectedly, larger remuneration committees are found to be associated with greater CEO compensation under both univariate tests, suggesting that larger remuneration committees are more likely to be influenced by management.

The mean (median) of the proportion of independent directors on remuneration committees (RCIND) is 89% (100%). Although this average is relatively high, it does not reflect a complete compliance with the Code's recommendation which requires boards of directors to establish fully independent remuneration committees (provision: B.2.1). However, as presented in Table 5.5, I find little evidence that this proportion affects CEO compensation, except for BONUS and TOTAL SHORT-TERM which are found to be significantly decreased by this variable under the t-test.

The UK Corporate Governance Code (2006) emphasises the importance of separating the roles of chairman of the board and that of chairman of the remuneration committee (provision: B.2.1), implying that the duality of these positions might affect the remuneration committee's independence in setting managerial compensation. The firms in the sample illustrated considerable levels of compliance with this provision. That is, it is found, on average, that these two positions are occupied by the same individual in only 6.2% of the firms. Interestingly, according to both univariate tests, BRDUAL is found to be negatively associated with the level of CEO total compensation.

Consistent with Johnston's (2007) findings, the average tenure on remuneration committees (RCTEN) is 3.8 years (Median=4). While no impact is found for this variable on total and other long term compensation, it has mixed correlations with the short-term components under both tests. That is, long-tenure of individuals on the remuneration committee is associated with greater SALARY, whereas this association is found to be negative and significant with regard to BONUS. The mean (median) of the number of CEOs of other firms who sit on remuneration committees (CEOs) is 13.2% (0). Yermack (1996) and Johnston (2007) document similar average on samples of US and UK public firms. Remuneration committees with more CEOs of other firms acting as members are found to award their firms' CEOs relatively greater compensation under the t-test.

The mean of the remuneration committee members' average compensation (RCPAY) is £62,422, which is greater than the average of the board of directors pay, suggesting that the directors of the board who sit in the remuneration committee are compensated by more than 25% for their memberships of the remuneration committee. As expected, RCPAY is found to be an increasing function of the level of CEO compensation.

Table 5.7 Descriptive statistics of governance and share ownership variables for the pooled sample

Variables	N	Min	mean	max	median	sd	skewness	Kurtosis
CEOOWN	1040	0	0.01862	0.75414	0.00047	0.07022	5.7007	42.294
CHOWN	1039	0	0.0185	0.69941	0.00014	0.07389	5.3585	34.693
INSOWN	1011	0.032	0.31286	0.9244	0.293	0.1469	0.8008	3.9114
CEOAGE	995	32	51.641	76	52	6.6224	0.00494	2.6986
CEOTEN	957	0	4.9592	32	3	5.5425	2.2734	9.2439
TOTASSTs	1035	2.573	5810.2	1.90E+05	1378.9	16580	6.6786	54.284
ROA_{-1}	1017	-156.51	9.274	185.33	8.26	12.78	0.47078	71.258
RET_{-1}	912	-0.90359	0.10097	3.9787	0.11189	0.41143	1.2154	12.123
M2B	989	-2068.8	1.4208	1080.6	2.65	78.514	-16.158	527.06
LEV	1035	0	0.25131	1.84	0.23	0.19079	1.3493	8.3202
VOL	851	13.39	28.844	60.87	27.55	8.6789	0.82543	3.5984

As presented in Table 5.7, the CEO share ownership (CEOOWN) amounts, on average, to about 1.86%, and ranges from 0% to 75%. This implies that, on average, the percentage of share stakes held by the CEO is lower than 2% in UK firms. These findings are consistent with those of UK studies such as that of Ozkan (2007a), who found that the mean of CEO share ownership is 1.71%. However, this is slightly higher than in the US. For example, Core et al. (1999) and Knop and Mertens (2010) found the average of the proportion of the equity holdings by the CEO was 1.53% and 1.15%, respectively. Surprisingly, the test finds that CEOs with greater levels of ownership receive less compensation.

Ownership by the chairman of the board (CHOWN) shows a similar average to that of the CEOs (1.85%) on average, ranging from 0% to 69.9%. The results also indicate that institutional investors (INSOWN) own, on average, 31% (median=29%) of the firms' outstanding shares in the sample. These findings are identical to those of Ozkan (2007a) who found that the mean (median) of the total institutional ownership is 31% (29%) in their sample of UK firms. As expected, CHOWN and INSOWN are found to significantly decrease the level of CEO compensation under the t-test.

The findings from the pool sample for all firm years stated and discussed above are for all firms in the sample. However, it is crucial to discuss the differences between the different sectors. Table 5.8 demonstrates the breakdown of the average or the mean of the study's governance and ownership variables in terms of industry classifications. Generally, the results indicate that no considerable differences are found between the categories of industries used in this study. The results illustrate that, while all industries are found to have boards of directors with an average of 9 members, the utilities sector (UTILS) has a mean of 10. Moreover, the utilities sector shows less compliance with

the Code's requirements with respect to the proportion of independent directors (INDs) (provision: A.3.2). That is, at the time that industrial, services, and information technologies sectors have an average of INDs above half (i.e. 51.7%, 52.7%, and 52%, respectively), the INDs of UTILS, on average, is 45%.

Table 5.8 Mean of governance and ownership variables accounting for difference in industry sectors, pool sample of 2004-2008

Variables	INDUSTS	SERVS	UTILS	ITS	POOL
BSIZE	9.1846	8.8249	10.169	9.1667	9.1705
NEDs	0.57622	0.58809	0.52895	0.58676	0.57594
INDs	0.51761	0.52756	0.45258	0.52049	0.51391
DUAL	0.04149	0.05836	0.04839	0.15686	0.05899
NEDPAY	53.442	50.193	45.735	41.816	50.34
CHAIRIND	0.26397	0.29782	0.18657	0.20183	0.26128
RCSIZE	3.8482	3.76	3.8595	3.8529	3.8193
RCIND	0.88215	0.92285	0.84807	0.8905	0.89326
RBDUAL	0.05428	0.064	0.04132	0.11765	0.06221
RCTEN	3.9521	3.93819	3.8699	3.0674	3.8541
CEOs	0.13369	0.13254	0.11377	0.14725	0.13234
RCPAY	63.486	63.322	63.453	52.872	62.422
CEOOWN	0.01739	0.01077	0.02316	0.04759	0.01862
CHOWN	0.0204	0.01288	0.01779	0.0311	0.0185
INSOWN	0.30222	0.32305	0.30532	0.33371	0.31286

ITS has the highest average of DUAL (15%) and is relatively much higher than other sectors and pool sample averages (5.9%). This might reflect that the nature of this type of firm requires CEOs and chairmen with specific qualities and educational background, who might be rare in the managerial labour market. However, the low level of NEDPAY that non-executive directors on ITS boards receive (£41,800) compared with other industries and the pool sample, may not support the latter argument. Also, similar result is found with respect to RCPAY.

It can be observed from Table 5.8 that the mean of the remuneration committee size (RCZISE) is similar within all industries, whereas UTILS shows relatively lower average of RCIND compared with other sectors. Noticeably, ITS firms are found to have more BRDUAL (11%) than the average pool sample (6.2%). Other remuneration committee variables seem to be similar within the different industries and pool average.

Moreover, in terms of ownership variables, the ITS sector has the highest mean in terms of all ownership variables to a significant extent. For example, as illustrated in Figure 5.6, the insider

ownership variables, i.e. CEOOWN and CHOWN, have the highest ownership in the ITS sector, i.e. 4.8% and 3.1%, respectively, while the averages of the pool sample are 1.86% and 1.85%, respectively. Moreover, although the ownership of institutional investors in the different industries is around the mean of the pool sample (31%), the highest average of such ownership is in ITS (33%), suggesting that the ITS sector is more desirable for both internal and external investors.

Figure 5.6: Evolution of the means of CEO and chairman ownership between industries
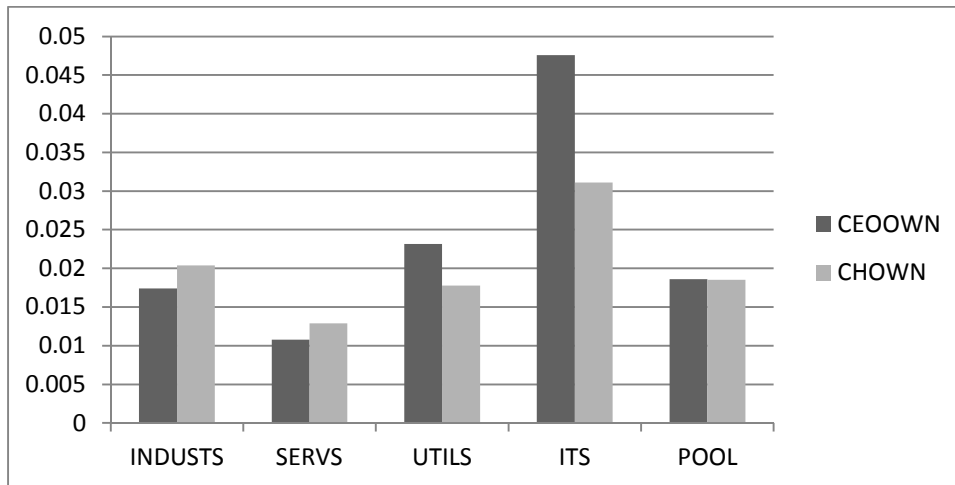
Figure 5.7: Evolution of the mean of institutional ownership between industries
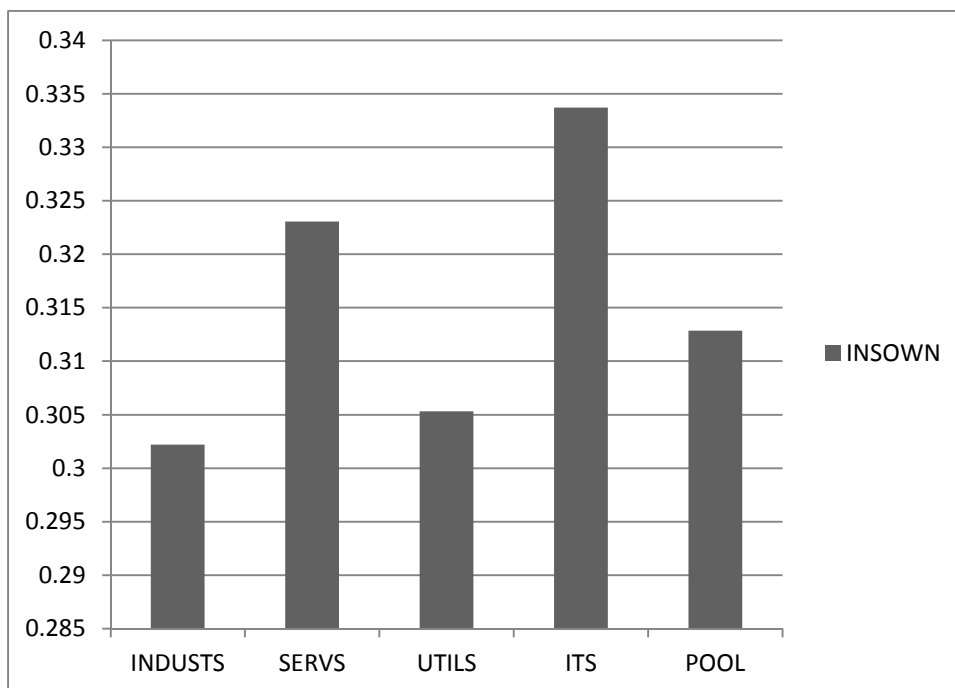
Table 5.9 presents the change of the means of boards, remuneration committees, and ownership variables during the period of the study, i.e. 2004-2008, to enable a comparison between the year's average and the average of the pooled sample. Since compliance with the requirements of the UK

Corporate Governance Code of 2003 is supposed to be, to some extent, voluntary, some firms might take more time to evaluate and assess the implications of these recommendations and thus to comply with them.

Table 5.9 Mean of governance and ownership variables accounting for difference between years

Variables	2004	2005	2006	2007	2008	POOL
BSIZE	9.3401	9.1381	9.0872	9.213	9.0913	9.1705
NEDs	0.54112	0.56581	0.57537	0.59048	0.601	0.57594
INDs	0.47584	0.49467	0.51463	0.53243	0.54487	0.51391
DUAL	0.06091	0.06667	0.06422	0.05217	0.05217	0.05899
NEDPAY	37.891	44.75	49.512	55.848	61.381	50.34
CHAIRIND	0.24675	0.24576	0.25	0.27966	0.2839	0.26128
RCSIZE	3.6735	3.6908	3.7742	3.9783	3.9432	3.8193
RCIND	0.86053	0.89859	0.89745	0.90137	0.90436	0.89326
RBDUAL	0.09694	0.07729	0.05991	0.0393	0.04386	0.06221
RCTEN	3.8567	3.6474	3.7368	3.8821	4.1215	3.8541
CEOs	0.12224	0.13137	0.13599	0.13456	0.13621	0.13234
RCPAY	49.223	50.889	60.07	69.4	79.363	62.422
CEOOWN	0.01617	0.01537	0.01682	0.01873	0.02537	0.01862
CHOWN	0.01713	0.01899	0.01878	0.01967	0.01783	0.0185
INSOWN	0.28148	0.29159	0.29988	0.33841	0.34497	0.31286

Figure 5.8: Evolution of the trends of the means of board size and the proportion of independent directors of the UK listed firms during the period under review
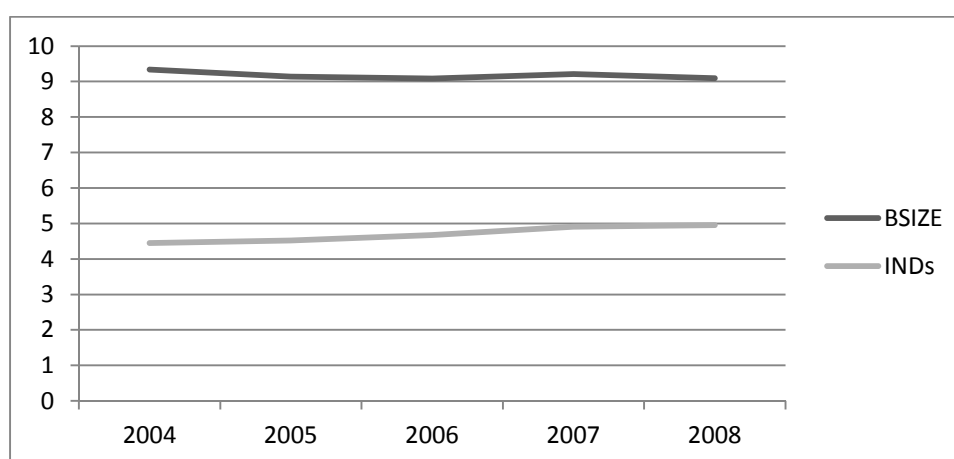
As demonstrated in Table 5.9 and Figure 5.8, the gradual changes in BSIZE and INDs may support the argument that firms have tended to consistently decrease board size and increase the proportion of independent directors on the board in order to comply with provisions A.3 and B.3.2, respectively. For example, while the UK firms were required in 2003 to create boards with at least half being

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independent directors, they, on average, achieved a complete compliance with this provision in 2006.

Figure 5.9: Evolution of the trends of the means of the averages of NEDPAY and RCPAY during the period under review
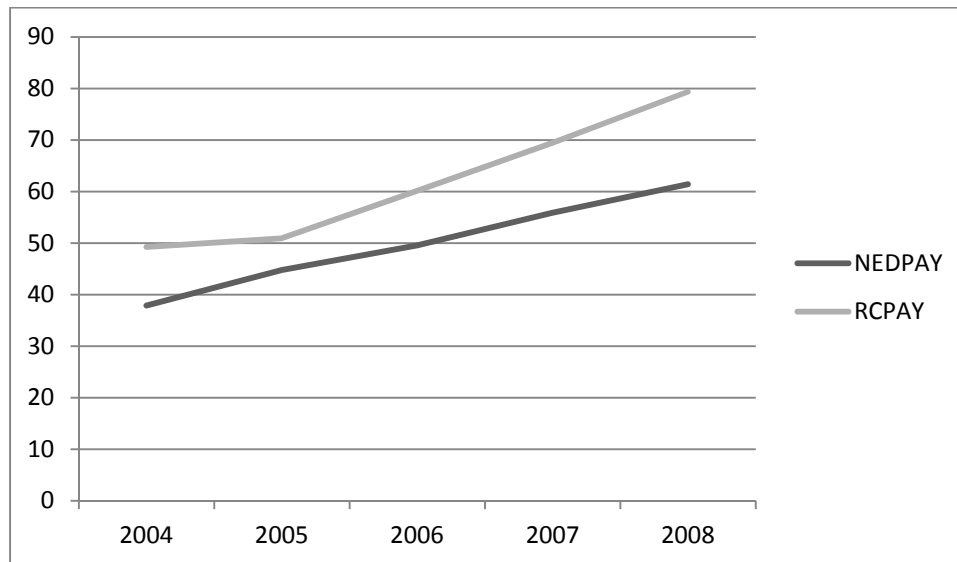
The means of NEDPAY and RCPAY (after being adjusted for the rate inflation) show a considerable increase during the period under review. The average of NEDPAY increased from £37,981 in 2004 to £61,381 in 2008, which means increasing by 83% during the five years' pooled samples. Also, the average of RCPAY shows similar growth (from £49,223 to £79,363), but with a lower percentage of growth (63%). Furthermore, the means of RCSIZE and RCIND show a slight increase. However, other variables including ownership variables, except for INSOWN which increased by around 23% during the period under review, are found to be around the pooled sample average.

5.3 Correlation Coefficients

This section presents and discusses the Spearman rank correlations among the corporate governance, ownership and control variables. The correlation coefficients are tested for the existence of high collinearity among independent variables. The term collinearity indicates that two predictors have a near perfect linear relationship. The importance of detecting such a problem is that the regression model estimates of the coefficients become unstable as the level of multicollinearity increases. Additionally, in order to make more checks on multicollinearity in the model, an evaluation of the variance inflation factor (VIF) is made to check for the degree of multicollinearity, as presented in Table 5.11.

Statistically, it is suggested that multicollinearity may damage or threaten the regression analysis if the degree of correlation exceeds 80% (Gujarati, 2003; Hair et al., 1995). Therefore, this percentage is adopted as the threshold in this study to detect the presence of the problem of multicollinearity in the residuals.

The highest correlation, compared with other variables, is found between the proportion of non-executive directors (NEDs) and the proportion of independent directors on the board (INDs) (67%). This relatively high correlation is expected since that all INDs are NEDs. However, as discussed above, this collinearity is considered to be harmless. Another relatively high correlation is found between NEDPAY and NEDs and INDs (57% and 49%, respectively), suggesting that non-executive directors receive higher compensation as their proportion in the board increases.

Moreover, consistent with previous studies, this study's measure of firm size (SIZE) is found to be positively and significantly correlated with BSIZE, NEDPAY and RCPAY (63%, 58% and 61%, respectively), indicating that larger firms have larger boards of directors and pay their boards and remuneration committees' members greater compensation. Furthermore, a positive and significant correlation (50%) is found between CEO tenure and his/her equity holdings of the firms' outstanding shares.

From the correlation coefficients, illustrated in Table 5.10, no high correlation is detected between the regressors. Therefore, according to the test of Spearman rank correlations, it can be concluded that multicollinearity does not appear to be a problem in the model since all the correlations are found to be under the proposed threshold.

As a robustness check on multicollinearity in the model, the variance inflation factor (VIF), as shown in Table 5.11, has been calculated to check for the level of multicollinearity. The VIF also leads us to calculate the tolerance level of multicollinearity, 1/VIF. Statistically, it is suggested that a VIF of more than 10 and a tolerance of less than 0.10 implies a problem of multicollinearity (see Hair et al., 1998 and O'Brien, 2007). The VIF shows a mean of 1.65 and overall tolerance value of 0.60 (1/1.65), indicating that the VIF's mean and the tolerance values are within acceptable levels. Therefore, the results of this test confirm the findings of the Spearman rank coefficient test that multicollinearity does not risk the interpretation of regression coefficients of the predictors of the model.

Table 5.10 Correlations Matrix

		1	2	3	4	5	6	7	8	9	10	11	12	14	15	16	17	18	19	20	21	22	23	24	25
1	PAY	1																							
2	BSIZE	0.43*	1																						
3	NEDs	0.38*	0.15*	1																					
4	INDs	0.32*	0.04	0.67*	1																				
5	DUAL	-0.08*	-0.11*	-0.08*	-0.09*	1																			
6	NEPAY	0.02	0.22*	0.57*	0.49*	-0.18*	1																		
7	CIND	0.51	-0.04	0.02	0.03	-0.11*	0.13*	1																	
8	RSIZE	0.17*	0.34*	0.24*	0.27*	-0.11*	0.31*	0.01	1																
9	RIND	-0.01	0.03	-0.05	0.33*	0.01	-0.01	0.08*	0.01	1															
10	RDUL	-0.05	-0.02	-0.11*	-0.12*	-0.04	-0.10*	-0.07	0.01	-0.23*	1														
11	RTEN	-0.03	-0.01	0.01	-0.16*	-0.01	0.04	-0.03	-0.02	-0.35*	0.15*	1													
12	CEOs	0.10*	0.13*	0.19*	0.14*	0.064	0.09*	0.05	0.11*	0.01	-0.09*	-0.09*	1												
13	RPAY	0.43*	0.34*	0.38*	0.33*	-0.10*	0.62*	0.20*	0.34*	-0.09*	0.04	0.09*	0.12*	1											
14	CWN	-0.11*	-0.25*	-0.37*	-0.27*	0.16*	-0.37*	-0.05	-0.24*	-0.06	0.10*	0.14*	-0.13*	-0.27*	1										
15	CHWN	-0.13*	-0.34*	-0.32*	-0.29*	0.19*	-0.38*	-0.17*	-0.18*	0	0.04	0.05	-0.17*	-0.32*	0.38*	1									
16	INWN	-0.12*	-0.29*	-0.02	-0.02	0.08*	-0.16*	-0.01	-0.12*	0.03	0.05	0.03	-0.16*	-0.18*	0.16*	0.26*	1								
17	CAGE	0.06*	0.13*	0.03	-0.05	0.12*	0.03	-0.02	-0.01	-0.04	0.03	0.07*	0.08*	0.17*	0.15*	-0.13*	-0.12*	1							
18	CTEN	0.02	0.04	-0.15*	-0.19*	0.12*	-0.14*	0.01	-0.10*	-0.11*	0.04	0.22*	-0.01	-0.04	0.50*	0.01	0.06	0.38*	1						
19	ROA	0.13*	-0.03	0.03	-0.02	0.02	0.01	-0.01	0.01	-0.04	0	0.01	-0.01	0.01	0.01	-0.11*	-0.03	0.02	0.05	1					
20	M2B	0.08*	-0.01	0.05	0.02	0.05	-0.03	0.01	0.07*	0.01	-0.06	-0.08*	0.04	-0.04	-0.03	-0.06	-0.10*	0.05	0.03	0.35*	1				
21	ASSTs	0.46*	0.63*	0.38*	0.32*	-0.15*	0.58*	0.04	0.31*	0.01	-0.05	-0.03	0.20*	0.61*	-0.38*	-0.42*	-0.36*	0.16*	-0.05	-0.18*	-0.14	1			
22	LEV	-0.06	0.08*	0.14*	0.13*	-0.13*	0.22*	0.05	0.13*	0.04	0.05	-0.01	0.07	0.19*	-0.22*	-0.07*	-0.12*	-0.01	-0.10*	-0.20*	-0.12*	0.39*	1		
23	RET	-0.03	-0.01	-0.14*	-0.20*	0.01	-0.24*	-0.03	-0.09*	-0.06	0.06	-0.01	-0.02	-0.23*	0.04	0.09*	-0.14*	0.01	0.03	0.46*	0.37*	-0.13*	-0.12*	1	
24	VOL	-0.16*	-0.26*	-0.05	0.02	0.10*	-0.19*	-0.12*	-0.11*	0.01	0.01	-0.05	-0.01	-0.17*	0.14*	0.25*	0.27*	-0.16*	-0.03	-0.19*	-0.18*	-0.26*	-0.13*	-0.02	1

* denote significance at the 0.05 level

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Table 5.11 VIF Test Results		
Variable	VIF	1/VIF
INDs	3.3	0.302677
NEDs	3.05	0.328243
CEOOWN	2.46	0.405921
NEDPAY	2.44	0.410289
RCPAY	2.18	0.458884
RCIND	1.99	0.502431
CHOWN	1.84	0.54279
BSIZE	1.78	0.562898
TOTASSETs	1.68	0.596885
CEOTEN	1.62	0.616455
DUAL	1.53	0.652852
INSOWN	1.41	0.709393
RCTEN	1.4	0.712779
CEOAGE	1.34	0.747052
RCSIZE	1.32	0.754751
VOL	1.27	0.784741
NOCONs	1.2	0.835543
BRDUAL	1.18	0.846041
LEV	1.15	0.867788
RET_{-1}	1.14	0.876646
CEOs	1.12	0.893507
CHAIRIND	1.11	0.897001
ROA_{-1}	1.08	0.926428
M2B	1.02	0.98336
Mean VIF	**1.65**	

5.4 Empirical Results and Analysis for the First Model: Tests of Hypotheses (Multivariate Analysis)

Multivariate regression analysis, which is one of the most commonly applied techniques, is applied in this research. The analytical findings generally illustrate a high level of consistency with the univariate analysis. This section discusses the most suitable regression test for the study's data, along with the justification for the test chosen. Then, the analysis's findings will be theoretically and empirically discussed and compared with, if available, previous studies' results with a particular focus on relevant UK empirical work. Finally, the results for the control variables will be illustrated and discussed.

The analysis tests the impact of the multi variables of corporate governance and ownership structure on CEO compensation components as dependent variables. Therefore, a multiple regression is supposed to be relevant for this research. Although the ordinary least square (OLS) estimators are believed to be a suitable method when the analysis contains both dummy and continuous variables, applying the ordinary least square approach is conditioned according to the assumptions (i.e. normality, linearity, homoscedasticity, independence of error terms and multicollinearity) that were discussed in the previous chapter.

As highlighted in the previous chapter, parametric tests and OLS are more appropriate and can produce more accurate estimates if all assumptions are met, and when all variables that are used in the analysis are measured on at least an interval scale (Judge et al., 1985). Otherwise, non-parametric tests become more powerful (Balian, 1982). In order to avoid the need for meeting the assumptions that are required by parametric techniques, non-parametric techniques can be taken as a substitute for parametric tests (Zhang and Liu, 2009). Thus, non-parametric techniques are considered to offer distribution-free methods that do not require meeting the assumption of normality and other related assumptions. As a result, non-parametric techniques are employed in the analysis of this research to analyse the data, since the data does not meet the assumptions that are required for parametric techniques. Consequently, instead of OLS estimators, GLS regression is applied as the main multivariate test technique.

Table 5.12 indicates the main regression (GLS) of CEO compensation on board and remuneration committee composition and ownership structure. The fairly high R-squared of the model indicates that the model or the equation has a good fit, and suggests that 72%, 30%, 66%, 18%, 31%, and 63% of the variations of SALARY, BONUS, TOTAL SHORT-TERM, LTIPs, TOTAL LONG-TERM, and TOTAL, respectively, are explained by all of the predictors or the independent variables of the model, indicating the correct specification of the equation. However, the low R-squared statistics of the model with regard to ESOs (15%)

suggest that there are omitted variables or other determinants of this kind of compensation that can be considered as market determinants, which are out of the scope of this study. Nevertheless, this range of R2 in terms of the dependent variables (including ESOs) is acceptable and encouraging compared with previous studies such as Mehran's (1995) study which provided results on CEO compensation with R-squared at 14%.

5.4.1 Board of Directors' Composition

5.4.1.1 Board size

Consistent with this study's hypothesis that board size has a positive impact on CEO compensation, the results show that there is a positive and significant relationship between board size and CEO total compensation components at the 1% level. Also, the number of directors on the board is found to positively increase SALARY, TOTAL SHORT-TERM, and ESOs ($p<0.001$). However, no relationship is found between board size and other compensation variables (i.e. BONUS, LTIPs, and TOTAL LONG-TERM). These findings suggest that the CEOs of firms with larger boards of directors, enjoy greater levels of salary, total short-term compensation and total compensation. They are also granted more stock options.

This result supports the argument that larger or overcrowded boards are less effective due to the lack of coordination and communication between the directors. In contrast, smaller boards seem to be more likely to perform effectively, and are more difficult to be influenced by the management (Lipton and Lorsch, 1992; Jensen, 1993; Ozkan, 2007). In other words, larger boards become easier to be manipulated and controlled by the CEO, since he/she has more chances to develop relationships with more non-executive directors and thus influence their control decisions to maximise his/her own compensation. Therefore, the findings reject the argument that smaller boards are less capable than larger boards in terms of monitoring and controlling management's actions (Zahra and Pearce, 1989; Baysinger and Butler, 1985).

Accordingly, the size of the board of directors plays a significant role in monitoring management and determining the level of CEO compensation, and larger boards are less effective in monitoring executives and tend to pay CEO higher compensation at the expense of the shareholders. As a result, larger boards are found to be weaker in terms of internal governance, and thereby contribute to an increase in agency problems through negatively affecting the board's independence and increasing managerial entrenchment. This supports the UK governance requirements that stress the importance of the board size not being so large as to be unwieldy (UK Corporate Governance Code, 2003).

These findings are consistent with Ozkan's results (2007a) who concluded that the larger UK boards have a positive and significant relationship with cash, equity-based and total compensation in a cross-sectional study in 2004. Similar results were found with regard to US firms (e.g. Core et al., 1999; Fahlenbrach, 2009). Furthermore, the results give some support to the findings of Yermack (1996) and Eisenberg et al. (1998) who noted a negative relationship between board size and firm value, implying that the executive incentives that had been designed by the board of directors were less effective as the number of board members increases. However, some evidence from Asian-based studies provided by Basu et al. (2007) and Wang et al. (2011) using a Japanese and Chinese samples, respectively, demonstrated a non-significant relationship between board size and top executive cash compensation. Although these studies are related to developed countries, other factors may cause these differences in findings such as legal systems or governance regimes, culture, ownership and other structural differences. That is, firms in Asia are more family-controlled and thus have boards which tend to be comprised of more family members. Therefore, larger boards in Asian firms may not always damage the monitoring function of the board.

5.4.1.2 Board Independence

Inconsistent with hypothesis 2 which states that the proportion of independent and non-executive directors on the board of directors negatively affects the level of managerial compensation, the proportion of both non-executive directors and independent directors were found to have a positive association with CEO total compensation and other components that were more favourable for executives. Therefore, these results reject the hypothesis that external and independent directors participate in monitoring managers and using their compensation as a tool to align their interests with those of shareholders.

The findings indicate that the proportion of non-executive directors (NEDs), the first proxy for board independence, is positively and significantly related to all cash or short term components and total compensation (SALARY, TOTAL SHORT-TERM and TOTAL at the 1% level and BONUS at the 10% level). The long-term components (i.e. LTIPs, ESOs, and TOTAL LONG-TERM) are not significantly related to this proportion. On the other hand, the percentage of independent directors (INDs), the second proxy for board independence, that is measured according the Code's criteria, also leads to other surprising results. The percentage of INDS is found to significantly increase SALARY at the 5% level, TOTAL SHORT-TERM, ESOs, and TOTAL at the 1% level. Other performance-related components, with the exception to ESOs, (i.e. BONUS, LTIPs, and TOTAL LONG-TERM) are also not significantly associated with this measure of board independence.

With respect to ESOs, INDs were found to play a positive role in incentivising managers through increasing their stock options. Therefore, although this proportion is found to negatively affect executive compensation governance and quality through increasing the level of CEO cash and total compensation, little evidence was found by this study with regard to the positive role of independent directors in increasing the pay-performance relationship.

These results are consistent with the findings of Lambert et al. (1993), Boyd (1994), Core et al. (1999), Franks and Mayer (2001) and Ryan and Wiggins (2001) who studied US firms, and Ozkan (2007) for UK firms, which found a positive correlation between the empirical indicators of a directors' independence and executive compensation. However, they were in contrast with the results of Conyon and He (2011) who found that firms with more independent directors on the board enjoy a higher pay-for-performance relationship. While Mehran (1995) found that there was no relationship between executive cash compensation and the percentage of outside directors using a sample of 153 randomly-selected manufacturing US firms for the years 1979-1980. Also, Wang et al. (2011) found insignificant impact of board independence on executive cash compensation.

These results are inconsistent with monitoring or with the interests' alignment hypothesis of agency theory. This perspective suggests that independent directors play an important role in aligning the interests of agents with those of shareholders by providing firms with effective monitoring, and using managerial compensation as a tool to maximise shareholders' value, since they are assumed to have no incentive to collude with management (Fama and Jensen, 1983).

Therefore, these findings seem to provide strong support to the stewardship theory which suggests that internal managers or executive members sitting on the board are believed to provide effective management and control decisions to maximise the shareholders' value. In other words, stewardship theorists argue that boards that are dominated by executive directors are more desirable, as they can supply their firms with more efficient control decisions and consultations due to their commitment to the firm, their business expertise and their access to information. In contrast, boards with a majority of external or non-executive directors might have an adverse impact on the process and on the timing of making and taking decisions. Hence, these findings do not support the reform actions' direction that stresses the need for increasing the number of independent directors on boards of directors and the importance of creating boards with at least half their numbers made up of independent directors.   .

Table 5.12 GLS Panel Data Estimations

First Model Main Regression

	ln(SALARY)		ln(BONUS)		ln(TOTAL SHORT-TERM)		ln(LTIPs)		ln(ESOs)		ln(TOTAL LONG-TERM)		ln(TOTAL)	
	Coef.	z-value	Coef.	z-value	Coef.	z-value	Coef.	z-value	Coef.	z-value	Coef.	z-value	Coef.	z-value
Board of Directors Variables														
BSIZE	0.03	4.65***	-0.00	-0.02	0.03	3.43***	0.02	027	0.17	2.85***	0.04	0.84	0.04	3.50***
NEDs	0.61	4.68***	1.45	1.83*	0.77	4.13***	0.36	0.29	-1.07	-0.85	1.05	1.14	0.81	3.17***
INDs	0.29	1.99**	0.01	0.01	0.82	3.89***	-1.83	-1.26	5.12	3.60***	0.73	0.70	0.98	3.38***
DUAL	-0.00	-0.03	-1.47	-3.44***	-0.17	-1.71*	-1.02	-1.49	-0.09	-0.13	-0.68	-1.37	-0.24	-1.75*
ln(NEDPAY)	0.06	5.16***	-0.06	-0.78	0.02	1.33	0.20	1.76	-0.28	-2.4***	-0.07	-0.84	0.04	1.60*
CHAIRIND	-0.00	-0.09	-0.03	-0.21	-0.01	-0.42	0.31	1.35	-0.39	-1.73*	0.29	1.73*	-0.01	-0.16
Remuneration Committee Variables														
RCSIZE	0.00	0.13	-0.09	-1.41	-0.04	-2.61***	-0.06	-0.56	0.00	0.02	-0.11	-1.44	-0.05	-2.49***
RCIND	-0.21	-2.51***	-0.38	-0.77	-0.38	-3.23***	1.44	1.80*	-0.78	-1.00	0.22	0.38	-0.30	-1.89*
RBDUAL	0.04	0.74	-1.10	-3.50***	-0.08	-1.09	0.84	1.66*	0.19	0.38	0.43	1.17	0.01	0.08
RCTEN	-0.01	-2.94***	-0.03	-1.20	-0.02	-3.39***	-0.05	-1.12	0.02	0.38	0.02	0.49	-0.02	-1.98**
CEOs	-0.00	-0.02	0.37	1.14	0.14	1.76*	-0.09	-0.17	1.87	3.60***	0.72	1.90*	0.28	2.68***
ln(RCPAY)	0.09	3.86***	0.56	4.20***	0.22	7.07***	-0.46	-2.15*	0.03	0.13	0.12	0.77	0.25	5.74***
Ownership Variables														
CEOOWN	1.52	4.56***	-0.92	-0.46	1.17	2.45***	-8.43	-2.6***	4.46	1.39	-6.47	-2.76***	0.83	1.27
CHOWN	-1.26	-5.63***	-1.32	-0.99	-1.03	-3.30***	-3.51	-1.65*	-2.62	-1.25	-4.67	-3.03***	-1.62	-3.77***
INSOWN	-0.05	-0.47	-0.78	-1.32	-0.01	-0.07	0.96	1.01	-1.37	-1.46	0.42	0.61	0.10	0.51
Control Variables														
CEOAGE	0.01	5.07***	-0.02	-1.49*	0.00	1.51	-0.02	-1.39	-0.00	-0.28	-0.04	-3.06***	-0.01	-1.68*
CEOTEN	0.01	2.96***	0.03	2.28**	0.01	4.16***	0.02	0.73	-0.04	-2.10**	0.01	0.86	0.02	4.46***
ln(SIZE)	0.14	10.9***	0.24	3.16***	0.16	9.10***	0.56	4.62***	0.17	1.41	0.53	5.99***	0.24	9.82***
ROA$_{-1}$	0.00	2.94***	0.04	5.47***	0.01	6.38***	0.01	0.52	-0.00	-0.09	0.01	1.14	0.01	4.41***
RET$_{-1}$	-0.11	-4.22***	1.18	7.58***	0.05	1.36	-0.30	-1.18	0.36	1.47	-0.04	-0.22	-0.01	-0.29
M2B	0.00	0.04	-0.00	-0.09	0.00	0.46	0.00	0.40	-0.00	-1.88*	0.00	0.04	-0.00	-0.04
LEV	-0.22	-3.53***	-1.19	-3.14***	-0.38	-4.24***	0.07	0.12	-1.27	-2.11**	-0.70	-1.59	-0.57	-4.59***
VOL	-0.00	-1.54	-0.02	-2.07**	-0.00	-1.66*	-0.02	-1.31	0.02	1.28	0.00	0.32	-0.00	-0.12
_cons	3.72	24.8***	2.91	3.21***	3.92	18.32***	3.28	2.25**	1.16	-0.80	2.58	2.46***	3.96	13.5***
Adj R-2	0.72		0.30		0.66		0.18		0.15		0.31		0.63	

Legend: * p<.1; ** p<.05; *** p<.01

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5.4.1.3 CEO-Chairman Duality

According to the agency and managerial power perspectives, this study hypothesised that the separating of the role of CEO and chairman leads to less managerial power over the board of directors and its decisions, and thus lowers the level of CEO compensation. The results of the analysis are inconsistent with this argument and reject this hypothesis. More interestingly, I found opposite results to this argument. That is, while the CEO-chairman duality was found to have a negative but non-significant correlation with SALARY, LTIPs, ESOs, and TOTAL LONG-TERM, the other compensation variables, BONUS, TOTAL SHORT-TERM and CEO total compensation, are significantly and negatively related to the CEO duality.

Thus, these findings are inconsistent with the hypothesis of agency theory that the CEO-chairman duality increases agency problems by negatively affecting the board's independence and thus decreasing the quality of corporate and compensation governance. Also, they reject the notion of the managerial power approach which assumes that the duality of the positions of CEO and chairman of the board increases managerial influence over control decisions, including the level of executive compensation.

These findings provide great support for the stewardship perspective which suggests that opportunistic managerial behaviour does not arise from one individual holding the two positions. Instead, the steward (i.e. the CEO) is believed to work in the best interests of the firm, acting as a good steward of the shareholders' assets. Thus, the CEO is far from taking advantage of this concentration of power and authority and "being an opportunistic shirker" (Donaldson and Davis, 1991: 51). Moreover, this significant decrease in CEO bonuses supports the argument on the part of stewardship theorists, that the CEO is believed to inherently have the motivation to maximise the firm's value, as the leader or the steward of the principals' assets, and thus there is no need for financial motivation to align his/her interests with that of shareholders.

Conyon and Peck (1998) and Conyon (1997) noted no relationship between CEO-chairman duality and executive compensation in the UK. However, these findings appear to be inconsistent with those of US studies (Main and Johnston, 1993; Boyd, 1994; Westphal and Zajac, 1995; Core et al., 1999; Brick et al., 2006; Wang et al, 2011) which concluded that there was a positive association between executive compensation and CEO-chairman duality. For example, Core et al. (1999) found that on average CEOs who hold both positions receives additional pay of $152,577. Although the UK and the USA may have similar legal and governance systems, culture, ownership and other economic characteristics, these opposing results might imply that UK managers behave as stewards in running their firms more than their US counterparts.

Furthermore, the findings do not support the governance reform (e.g. Cadbury Committee Report and the UK Corporate Governance Code) recommendations that there should be a clear division of responsibilities at the head of the firm, implying that the positions of chairman of the board and the CEO should be occupied by two individuals.

5.4.1.4 Non-Executive Directors' Pay

According to the cronyism hypothesis suggested by Brick et al. (2006), this study hypothesised that external directors pay positively affects CEO compensation. Consistent with this hypothesis, and after controlling for firm size and complexity, the non-executive directors' compensation or the fees that are received by non-executive directors who sit on the board of directors (NEDPAY) is found to be positively and significantly associated with CEO salary and total compensation components at 1% and 10% significance levels, respectively. Moreover, non-executive directors' pay is found to play a strong role in decreasing CEO stock options ($p<0.01$).

These findings indicate that the greater level of directors' pay not only increases the agency costs by increasing the levels of both CEO and non-executive directors' compensation, but also negatively affects pay-performance sensitivity through decreasing the executive stock options. Therefore, since this study controls for firm size and complexity, this would make this positive relationship economically justified. These findings can be interpreted under the cronyism hypothesis which argues that directors and managers increase their own utilities at the expense of shareholders. That is, the CEO dominates the directors by increasing their compensation through his power (Baysinger and Hoskisson, 1990), and thus in order to justify their compensation, well-compensated directors may have the motivation to increase the CEO's compensation (Brick et al., 2006).

Agency theory suggests that external directors tend to enhance their reputation as experts in the decision control market, and thus increase their value in terms of human capital (Jensen, 1983). As a result, as they believe that this reputation is more credible than any financial gain, the small payments that they receive is a strong indication of this notion (Fama and Jensen, 1983). Accordingly, the results imply that larger directors' compensation is a sign of poor governance since the non-executive directors collude with management to maximise their own compensation at the expense of their reputation and shareholders' value. Thus, the overpayment of managers and non-executive directors can be taken as a symptom of a firm's agency problem.

These findings are consistent with those of Boyd (1994), who found that total directors' pay has a negative impact on board strength or control and thus a positive effect on executives' total cash compensation, and with those of Brick et al. (2006) who noted that the positive and significant association between excessive director compensation and excessive CEO compensation is associated

with poor performance. However, Mangel and Singh (1993) concluded that directors' compensation does not significantly affect executive cash compensation. The inconsistency of the latter results might be due to the relatively small sample size that they used compared with this study and those of other studies, or might be because of the lack of control variables since they only controlled for firm size and performance.

5.4.1.5 Chairman Independence

According to agency theory, this study predicted that the empirical indicator for chairman's independence (CHAIRIND) is expected to enhance compensation governance and decrease the level of CEO compensation. However, the non-significant relationship between CHARIND and CEO total compensation do not completely support this hypothesis. This finding of no relationship suggests that the independence status of the chairman of the board of directors plays no role in determining the level of CEO compensation, and hence in mitigating the agency problem. However, with respect to the structure of CEO compensation some support is found for the argument that having an independent chairman helps in improving the quality of compensation governance. That is, this study found that boards of directors that are chaired by independent chairmen grant the CEOs more total long-term compensation (p<0.10), which is predicted to increase the pay-performance relationship and thus enhance the manager-shareholder alignment.

The latter finding is inconsistent with Habbash et al. (2010) who found that chairman independence plays no role in monitoring management. They concluded that there is a non-significant relationship between the chairman's independence, using the Code's chairman independence criteria as a proxy, and the level of earnings of management. Therefore, this result provides some support to the argument that an independent chairman, who is neither the CEO nor a founder, is suggested as a means of enhancing the monitoring function of the board of directors (Abbott et al., 2004; Fama and Jensen, 1983).

Moreover, this finding supports the Code's recommendations in terms of the chairman's independence. The UK Corporate Governance Code states that the chairman of the board of directors should meet the independence criteria, which was set for non-executive directors to be considered as independent directors on appointment. These results imply that the independent status of the chairman on appointment has some positive effects on the monitoring function of the board of directors.

Habbash et al. (2010) utilised the Code's non-executive directors' independence criteria in the fiscal year rather than on appointment, as another proxy for chairman independence. Surprisingly, they identified a negative and significant relationship between chairman independence and the level of

management earnings, which is consistent with the finding that an independent chairman plays a role in monitoring management under this measure. However, one can criticise this proxy when noting that the UK Corporate Governance Code (2003) supports this view by establishing that "…the chairman should, on appointment, meet the independence criteria set out in this provision (i.e. provision: A.3.1), but thereafter the test of independence is not appropriate in relation to the chairman" (provision: A.2.2). Accordingly, it was decided not to use this proxy when determining the independent status of the chairman.

5.4.2 Remuneration Committee Composition

5.4.2.1 Remuneration Committee Size

Inconsistently with hypothesis 6, which states that there is a positive relationship between remuneration committee size (RCSIZE) and the level of CEO compensation, it is found that the number of directors sitting on the remuneration committee is inversely and significantly associated with CEO cash compensation and total CEO compensation ($p<.01$). These results indicate that the CEOs of firms with larger remuneration committees receive lower short-term and total compensation.

These findings imply that larger remuneration committees play a stronger role in determining executive compensation and in monitoring management through decreasing the total CEO compensation and setting challenging compensation for him/her by reducing the cash compensation components, which is favourable for CEOs. However, this study found no evidence that such committees enhance pay-performance sensitivity by increasing equity-based components (i.e. LTIPs, ESOs, and other long-term compensation) which challenge the CEO to improve the firm's performance and thus maximise shareholders value. A theoretical explanation of these findings is that larger remuneration committees are more difficult to influence on the part of the CEOs, and hence are more independent in setting managerial compensation. In contrast, as the remuneration committee size gets smaller, executive remuneration decisions would be less independent and more favourable with regard to the CEO, i.e. there will be more cash and total compensation.

Another explanation might be that, unlike larger remuneration committees, smaller ones may have a lack of specialists and individuals able to monitor top management (Bushman et al., 2004), which leads to the committee determining CEO compensation in a traditional way since the remuneration committee's members may have a lack of knowledge and expertise when it comes to setting challenging compensation arrangements that aim to incentivise managers to improve the firm performance. Therefore, the results are in line with the argument that larger remuneration committees are believed to be more independent in setting managerial compensation arrangements

and are better at providing their firms with monitoring through arguably having more expertise and knowledge. Moreover, the findings partly support the Code's recommendation that emphasises the importance of setting up a remuneration committee with at least three members (UK Corporate Governance Code, 2003, provision: B.2.1), which in turn implies the code wishes to encourage firms to establish larger remuneration committees.

Nevertheless, the results are inconsistent with the findings of Sun and Cahan (2009) who examined the association between remuneration committee size and the relationship between CEO cash compensation and accounting earnings. They find that this association is lower when firms have a larger remuneration committee, which implies weak monitoring by such larger committees. However, the results of this study should be viewed with caution since they merely included the cash compensation components, which are not, with the exception of bonuses, theoretically determined by the economic determinants (e.g. firm performance measures) and exclude the performance related components, which are basically awarded based on executive performance. Also, the approach of using cash compensation as a proxy for total compensation has been widely criticised as it does not reflect the total compensation that is received by managers, especially in recent years as firms have tended to award their managers more equity-based and less fixed compensation (see, for example, Farmer, 2007).

5.4.2.2 Remuneration Committee Independence

Hypothesis 7 assumes that the proportion of independent directors on the remuneration committee (RCIND) has a negative impact on the level of CEO compensation. The findings in terms of CEO total compensation are consistent with this hypothesis. The CEO total compensation was found to be negatively and significantly related to the proportion of independent directors on the remuneration committee at a 10% level of significance. This decrease in the total CEO compensation is mainly generated by a decrease in CEO cash compensation. That is, the analysis shows that RCIND has a negative and significant relationship with both CEO salary and total short-term compensation at a 1% significance level. More interestingly, the proportion of independent directors is found to significantly increase LTIPs at the 10% level.

These results imply that independent remuneration committees play an important role in monitoring CEOs by significantly reducing the CEO's most favourable pay component, i.e. annual salary, which is fixed and is unrelated to any performance condition, together with the total cash compensation. Moreover, while the results show a greater level of monitoring is associated with decreasing the CEO's salary, the findings with regard to LTIPs imply that independent directors on remuneration committees play an important role in incentivising the CEO through his/her

compensation arrangements. Therefore, the results suggest that independent remuneration committees are not only effective in decreasing agency costs through decreasing the CEO cash and total compensation, but also in incentivising managers to increase the firm's value by enhancing the pay-performance sensitivity.

Agency theorists argue that an independent remuneration committee has a key role in designing suitable and appropriate managerial compensation arrangements, which ensures that executive compensation is designed to align the agent-principal interests. Such arrangements assist in constraining opportunistic managerial behaviour while enhancing shareholder's wealth. Therefore, the findings with regard to this variable illustrate strong support for the agency perspective and other theoretical arguments such as the managerial power perspective, and the provisions of the UK Code that emphasise the importance of setting up independent remuneration committees.

This result is consistent with the findings of Anderson and Bizjak (2000) who noted a negative and significant relationship between remuneration committee independence, using the proportion of non-executive directors on the committee as a proxy, and the CEO's annual salary in a sample of US firms. However, they found different result in terms of incentive compensation as they noted that the committee's independence plays no part in setting performance-related compensation. Anderson and Bizjak (2003) found that the remuneration committee's independent status does not affect the relationship between CEO compensation and stock returns as a measure of firm performance. These results, along with this study's findings, indicate that independent directors on the remuneration committee play a crucial role in constraining opportunistic managerial behaviour by decreasing the cash pay, but unlike previous studies, this study finds some evidence that independent remuneration committees use CEO compensation as a tool to improve the firm performance and thus maximise the shareholders' value through increasing the incentive components.

5.4.2.3 Duality of Remuneration Committee and Board Chairmanship

Hypothesis 8 predicts that the duality of the chair of the remuneration committee and the board chairmanship (RBDUAL) has an inverse impact on the quality of compensation governance and thus a positive effect on the level of CEO compensation. However, the results of this variable's analysis do not support this argument and, surprisingly, this duality is found to have some positive impact on pay-setting quality. That is, firms with remuneration committees chaired by the chairman of the board of directors are found to pay their CEOs a lower bonus (p<.001) and grant them more LTIPs (p<.10). However, other compensation variables, including total compensation, are found to be non-significantly associated with this variable. These findings imply that although this duality plays no

part in determining the level of CEO compensation, it enhances the alignment of manager and shareholder interests by increasing long-term incentives and decreasing short-term or cash incentive components.

Therefore, these results do not support the argument that the duality of the chair of the remuneration committee and the board of directors may affect the committee's independence in setting managerial compensation. As a result, these findings are inconsistent with one of the additional amendments of the UK Corporate Governance Code (2006), which states that "in addition the company chairman may also be a member of, but not chair, the remuneration committee" (provision: B.2.1), which implies that the independence status of the remuneration committee can be adversely affected for determining executive compensation if the chairman of the board chairs the remuneration committee.

5.4.2.4 Remuneration Committee Members' Tenure

This study hypothesises that remuneration committee members' tenure (RCTEN) is a decreasing function of the level of CEO compensation. Consistently, this study documents superior monitoring by the long-tenured directors who sit on the remuneration committee through the greater negative effects on CEO salary, short-term and total compensation. The results show that RCTEN significantly decreases SALARY, TOTAL SHORT-TERM and TOTAL at 1%, 1%, and 5% levels of significance, respectively. However, the performance-related compensation variables, namely BONUS, LTIPs, ESOs, and TOTAL LONG-TERM, are found to be insignificant

This negative impact of RCTEN on CEO cash compensation components, which are favourable to CEOs, support the argument that directors with longer tenure are predicted to have greater internal governance experience and thus strengthen the internal governance through monitoring managers and providing their firms with higher control quality (Buchanan, 1974; Salancik, 1977; Vance, 1983; Vafeas,2003b). Also, these findings suggest that directors who have served on the remuneration committee for a long time, are less likely to be influenced by the CEO and more likely to be loyal to the firm and independent of the management.

Accordingly, the results reject the CEO allegiance hypothesis which argues that directors with longer tenure have interests that are more aligned towards those of the CEO. Also, they are inconsistent with the notion that the CEO can develop hidden relationships with non-executive directors as their tenure increases, and shows that longer-tenured directors play an important role in monitoring management and in mitigating the agency problem. As a result, the findings support the expertise hypothesis, which assumes that greater tenure leads to greater business and industry knowledge, and therefore a high level of monitoring by longer-tenured board and committee members (Byrd

and Cooperman, 2010). However, as mentioned earlier, the study finds that RCTEN plays no role in incentivising the CEO through increasing his/her incentive compensation.

According to the optimal contracting perspective, using a longer-tenured remuneration committee is supposed to be an optimal action which results in optimal outcomes through designing the CEO compensation in a way that constrains opportunistic managerial behaviour and maximises the shareholders value. Moreover, as non-executive directors sit on the remuneration committees for longer time, their readiness to perform their duties increases (Buchanan, 1974; Sun and Cahan, 2009). In turn, a re-evaluation of the Code's criteria to determine the independence status of non-executive directors in terms of the director's tenure (nine years) needs to be affirmed.

In contrast to this study's results, Byrd and Cooperman (2010) found a non-significant relationship between total CEO pay and the average tenure of compensation committee members on a sample of the US banking sector. However, they did not examine the impact of this variable on the different CEO compensation components in order to determine its impact on the structure of CEO compensation. Sun and Cahan (2009) also found relatively similar results when they noted a positive and significant association between CEO cash compensation and accounting earnings in firms with a higher proportion of longer-tenured directors (i.e. senior directors) on the remuneration committee, which reflects a higher governance quality by directors of this kind.

5.4.2.5 CEOs of Other Firms Sitting on the Remuneration Committee

Consistent with my hypothesis which hypothesises that the proportion of CEOs of other firms who sit on the remuneration committee (CEOs) has a positive impact on the level of total CEO compensation, the results show that CEOs significantly increase CEO short-term and total compensation at 10% and 1% significance levels, respectively. However, although the analysis shows that the presence of external CEOs on the remuneration committee is not significantly related to LTIPs, it was found that such a role significantly increased both ESOs and TOTAL LONG-TERM at 1% and 10% significance levels, respectively. These findings imply that even though the CEOs of other firms tend to increase their colleagues' compensation by awarding incumbent CEO more cash and total compensation, this increase in CEO total compensation due to the presence of external CEOs may also be generated by the increase in ESOs and equity-based compensation.

A theoretical implication of this result is that the CEOs of other firms sitting on remuneration committees compensate their colleagues by awarding them the level and the structure of pay arrangements that they desire for themselves, i.e. more cash components and higher levels of total compensation (Harris and Raviv, 1979; Mehran, 1995). The CEO may also take advantage of his/her relationships with such directors to influence their decisions, which reflects some features of

managerial power over the remuneration committee's decisions (O'Reilly et al., 1988; Weshphal and Zajac 1997; Conyon and He, 2004). Therefore, CEOs of other firms serving on the remuneration committee are found to weaken the governance structure through supporting the CEO and hence increase the agency problem.

Although the results indicate that this variable leads to lower governance quality through increasing the cash and total compensation, some evidence is found that this proportion of directors might play a role in motivating managers to improve the firm's performance through increasing both ESOs and TOTAL LONG-TERM with the aim of challenging the CEO to maximise the shareholders' value. This result may support the notion that CEOs of other firms may assist in designing challenging compensation arrangements, as they may provide their committees with experience and business leadership. Consistent with this argument, Sun and Cahan (2009) found that the association between CEO cash compensation and their performance measures is higher when firms have higher percentages of CEOs from other firms on their remuneration committee.

These findings are inconsistent with the no relationship results of Daily et al. (1998), Newman and Mozes (1999) and Conyon and He (2004) for firms in the US. However, they are consistent with the findings of O'Reilly et al. (1988) who found that CEO compensation is greater when a CEO of another firm sits on the remuneration committee on a sample of 105 US firms for the year 1984.

5.4.2.6 Remuneration Committee Members' Pay

Consistent with hypothesis 11 which argues that remuneration committee members' compensation (RCPAY) has a positive impact on the level of CEO compensation, I found that remuneration committee members' pay has a positive and significant relationship with CEO total compensation (p<.001). Also, the analysis shows that remuneration committee members' pay is positively and significantly correlated with all cash or short-term components, including the CEO's total short-term compensation at the 1% significance level. More interestingly, this variable is found to be associated with a significant decrease in LTIPs at the 10% level. These findings suggest that as the fees that are received by the remuneration committee members increases, the CEO receives greater levels of short-term compensation components and total compensation, and lower levels of Long-Term Incentive Plans.

Since CEOs prefer cash components over performance related elements, this result is consistent with the argument that greater remuneration committee pay may be a reason for the ineffectiveness of the committee in setting managerial compensation. That is, committee's members try to protect their own interests and benefits by setting CEO compensation in his/her favour at the expense of shareholders (Conyon and He, 2004). Therefore, highly compensated committees are assumed to

provide weak monitoring, damage the governance quality, and thus increase the agency problem. Accordingly, shareholders of such firms not only incur ineffective additional agency costs by such a gift-exchange relationship, but also by negatively affecting the executives' incentive to increase the firm's value.

Fama and Jensen (1983) argued that the external directors try to use their membership as an indication to the decision-agents market that they are decision experts, as they perceive the importance of separating the management and control decisions and manage to work with such monitoring systems. This indication is more likely to be believable when they are paid less. Accordingly, the results imply that greater RCPAY is an indication of weak governance, since the committee members collude with the CEO to maximise their own compensation at the expense of their reputation and shareholders' value. Thus, overpayment of CEO and directors can be taken as a symptom of a firm's agency problem. Moreover, the findings reject the substitution hypothesis which argues that there would be a negative correlation between the managerial and directors' pay if the latter's effort substitutes for managerial effort (Brick et al. 2006; Berry et al. 2006).

The findings are partly consistent with the results of O'Reilly et al. (1988) who noted a positive and significant relationship between CEO cash pay and the level of external directors' pay, especially for those who sit on the remuneration committee. Moreover, they are in line with those of Conyon and He (2004) who concluded that highly compensated remuneration committees pay their CEOs higher levels of compensation and introduce less performance-related compensation.

5.4.3 Ownership Structure

5.4.3.1 CEO Ownership

The study found no evidence that the proportion of shares owned by the CEO affects the level of his/her compensation. This is inconsistent with hypothesis 13 which predicts that CEO ownership (CEOOWN) is inversely related to the level of his/her compensation. However, the analysis of the structure of CEO compensation produces interesting findings. CEO ownership is found to significantly increase the CEO salary and total short-term compensation at 1% significance levels. More importantly, I find that CEOs with greater ownership in their firms receive significantly lower LTIPs and total equity-based components (p<.001), which implies that although the CEO influence over his/her compensation does not appear via total compensation, the structure of his/her compensation may reflects this managerial power over the pay-setting process.

Therefore, the results provide strong support to the managerial power perspective that CEO ownership increases managerial power over the compensation decisions in such a way as to

influence the structure of their compensation, i.e. more cash or fixed compensation and lower equity-based components (Lambert et al., 1993). However, the insignificant correlation of the level of total CEO compensation is inconsistent with this theory. Therefore, under the managerial power approach, the CEO uses the power that is generated by his ownership to influence the composition, but not the level of his own total compensation. On the other hand, one can interpret this result under the substitution of compensation hypothesis, which argues that remuneration committees take into account the CEO ownership in designing his compensation and, specifically, incentive compensation. That is, an increase in CEO ownership leads to an increase in his motivation which enhances the firm's value. Consequently, the compensation designer tends to award CEOs less equity compensation and more cash compensation.

With regard to fixed cash compensation, the findings are inconsistent with agency theory which suggests that managerial ownership plays a role in aligning the interests of managers with shareholders, and thus mitigates the agency problem (Jensen and Meckling, 1976). However, it is consistent with the perspective that argues that CEO ownership positively affects the agent-principal's interests' alignment by giving him/her the motivation to increase their personal wealth through improving the firm's value (Allen, 1981; Lambert et al., 1993). Conversely, it can be argued that the result on SALARY might also support the appropriation of rent and the entrenchment hypothesis of the agency theory. As CEO ownership increases, he/she tends to extract more rent (in the form of salary) and enjoy perquisites with entrenchment.

Consistent with these findings, Holderness and Sheehan (1988) and Finkelstein and Hambrick (1989) found that CEOs with larger ownership receive higher salaries. Nevertheless, they concluded that neither bonus nor total compensation is related to CEO equity holdings. In the UK, Ozkan (2007) documented similar results which suggest that CEO ownership plays no role in determining the CEO's total compensation in a cross-sectional study conducted in the UK, whilst finding this variable to be negatively associated with the total of equity-based compensation, but unrelated to his/her salary and cash compensation. The lack of control variables in this research, and the different measures that were used in this study, may cause the latter inconsistent results.

On the other hand, Core et al. (1999) found that CEO ownership has a negative impact on the CEO's total and cash compensation in a sample of US firms, suggesting that the proportion of shares that are held by the US CEOs plays a role in aligning the interests of managers with shareholders. However, they found this correlation to be non-significant and reported only the coefficients and t-statistics on the board and ownership structure variables as a sensitivity test. Also, Holderness and Sheehan (1988), Allen (1981), Lambert et al. (1993) and Mehran (1995) found that firms with higher

managerial ownership paid their CEOs less performance-related compensation in samples of US firms.

5.4.3.2 Chairman Ownership

The results of chairman ownership provide strong evidence to the hypothesis that the chairman's equity holdings (CHOWN) are a decreasing function of the CEO cash and total compensation. I found that CHOWN is negatively and significantly related to SALARY, TOTAL SHORT-TERM, and TOTAL ($p<.001$). Furthermore, the findings show that the relationship between the chairman's ownership and LTIPs and total long-term compensation is negative and significant at 10% and 1% significance levels respectively. However, both BONUS and ESOs are found to be non-significantly correlated with this variable.

Accordingly, the results support the interests' alignment hypothesis which suggests that chairman ownership plays a significant role in motivating the chairman of the board of directors to monitor management and eventually reduce agency costs (Shivdasani, 1993; Vafeas, 2003b). That is, chairman with a higher proportion of the firm's outstanding shares are found to effectively represent shareholders as one of them and thus monitor management to protect and maximise their own wealth. Moreover, with respect to the long-term components, chairman with greater ownership may substitute for the CEO's attempts to enhance the firm's value and thus mitigate the need to incentivise managers through performance-related compensation.

Therefore, consistent with agency theory, chairman ownership is assumed to mitigate the agency problem through aligning the supervisory board's interests with those of shareholders. Consequently, boards of directors that are chaired by chairmen with greater ownership are suggested to reduce the conflict of interest between managers and shareholders by providing their firms with higher levels of monitoring and governance quality.

Since there is no previous research, to the best of my knowledge, that has examined the impact of chairman ownership on executive compensation and governance quality, the findings of the studies that have investigated the function of external directors' ownership in monitoring managements and determining managerial compensation might be comparable to these findings as they (i.e. external directors and chairmen of boards) have the same nature and perform similar roles in firms.

Ozkan (2007) found similar results which suggested that the directors' ownership has a negative and significant impact on the level of CEO cash compensation (salary plus bonus). Ozkan's study additionally found that the variable also significantly decreases the level of CEO total compensation in a sample of UK firms. However, Lambert et al. (1993) concluded that there was a non-significant

association between the percentage of outstanding equity owned by non-executive directors and the level of managerial compensation. Core et al. (1999) noted a similar correlation with regard to CEO compensation. Finkelstein and Hambrick (1989) found that external directors' ownership played no role in determining the CEO cash compensation. A more recent study by Knop and Mertens (2010) examined the association between board of directors' ownership (including chairman ownership) and CEO salary, equity-based and total compensation. They concluded that external directors ownership, including that of the chairman, has an adverse and significant effect on CEO salary. However, they found that this variable has no impact on long-term and total compensation.

5.4.3.3 Institutional Ownership

According to agency theory, hypothesis 15 assumes that institutional ownership (INSOWN) is a decreasing function of the level of CEO cash and total compensation. However, I noted a non-significant relationship between INSOWN and all CEO compensation components, including total CEO pay, implying that institutions in the UK play no role in monitoring executives through decreasing their pay or setting challenging compensation arrangements.

Accordingly, these results do not support the agency perspective which suggests that institutional ownership effectively has a part to play in resolving the agency problem between the agent and the principal by providing their firms with sufficient monitoring function in order to maximise their investment value, since institutions have the ability and incentive to do so (Jensen and Meckling, 1976; Hartzell and Starks, 2003). Hence, consistent with some of the previous empirical evidence, it is found that the institutional shareholders in UK firms are passive and ineffective when it comes to monitoring (e.g. Cosh and Hughes, 1997; Franks et al., 2001; Goergen and Renneboog, 2001).

Coffee (1991), Maug (1998) and Pound (1988) argued that the ineffectiveness and the weak monitoring on the part of institutional investors may be caused by the potential liquidity costs, free-rider problems and conflicts of interest and strategy alignment. That is, institutions rarely behave or take decisions in terms of corporate monitoring since they pay more attention to liquidity than building up long-term investment, which requires exerting influence over corporate management (Coffee, 1991; Bhide, 1994; Maug, 1998; Ozkan, 2007).

Dong and Ozkan (2008) suggested that one of the reasons that might reduce an institutions' ability to provide an effective monitoring function is the agency problems within institutions themselves. Therefore, several reasons may prevent institutional investors from monitoring management and thus, according to this study's results, the UK institutional investors suffer from one, or more, of these obstructions. Hence, institutional ownership is found to play no role in improving governance quality and mitigating agency problems in UK firms. In line with this argument, Plender (1997)

reported that institutions in the UK rarely vote at AGMs since they do not have to do so, contrary to their counterparts in the US.

Consistent with my results, Dong and Ozkan (2008) found that the total institutional ownership has non-significant impact on CEO compensation in a sample of UK 563 non-financial firms. Also, they arrive at similar results on their measures of pay-performance, implying that UK institutional investors play a passive and ineffective role in monitoring management. Moreover, Cosh and Hughes (1997) obtained similar findings noting that institutional investors do not affect executive compensation when they examined the link between managerial compensation and governance mechanisms including institutional ownership. Ozkan (2007) noted similar results with respect to CEO long-term compensation when finding that total institutional ownership plays no role in determining CEO equity-based pay (i.e. the sum of LTIPs and ESOs).

In contrast to these findings, Hartzell and Starks (2003) concluded that concentrated institutional ownership is inversely and significantly correlated with the level of managerial compensation in a sample of US firms. However, they found that this variable has a negative impact on pay-performance sensitivity. Fahlenbrach (2009) supported these results when finding a negative and significant relationship between institutional ownership and executive compensation in a large sample of US firms. Mangel and Singh (1993) concluded similar results with regard to CEO cash compensation in a smaller sample of US companies. These findings suggest that, unlike UK institutions, US institutions participate effectively in enhancing the governance quality and thus mitigating the agency problem between executives and shareholders.

5.4.4 Control Variables

This section demonstrates and discusses the results for control variables that were used in this study. Table 5.12 illustrates the results of these control variables. In order to find out whether additional firm and CEO characteristics have an impact on, or determine, CEO compensation, all control variables have been subject to multivariate tests. Generally, the findings with regard to the study's control variables are almost consistent with previous research's findings.

CEO characteristics show conclusive results and have a great effect on CEO compensation. For example, CEO tenure (CEOTEN) illustrates a positive and significant impact on most compensation components. Also, firm-specific characteristics demonstrate significant effects on CEO compensation components. For instance, this study's measure for firm size (i.e. TOTASSETS) was found to significantly increase all CEO compensation components. Each control variable's results are considered individually below.

5.4.4.1 CEO Characteristics

CEO Age

The results of CEO age (CEOAGE) illustrate a positive and significant relationship with CEO salary (i.e. SALARY). However, BONUS, TOTAL LONG-TERM and TOTAL are found to be negatively and significantly associated with CEO age. Other compensation components are found to be non-significantly associated with CEOAGE, suggesting that older CEOs are awarded higher salaries and lower bonuses, long-term, and total compensation. These correlations are consistent with previous studies which found that older CEOs receive greater fixed or cash components. Also, they are in line with the finding that CEO age plays a role in determining CEO long-term and total compensation (e.g. Mehran, 1995; Vafeas, 2003; Conyon and He, 2004; Basu et al., 2007; Minhant, 2008; Conyon, 2009; Fahlenbrach, 2009).

CEO Tenure

The findings in terms of CEOTEN show a great impact on almost all CEO compensation components. CEOTEN is found to significantly increase all CEO compensation elements, with the exception of LTIPs and TOTAL LONG-TERM which have a non-significant association with CEO tenure. These findings are consistent with the managerial power hypothesis that argues that CEO power over control decisions and thus his/her own compensation is an increasing function of his/her tenure (Fahlenbrach, 2009). Previous empirical evidence also obtained similar findings (e.g. Mangel and Singh, 1993; Cyert et al., 2002; Basu et al., 2007; ; Minhant, 2008; Knop and Mertens, 2010).

5.4.4.2 Firm Characteristics

Firm Size

As expected, firm size has a strong correlation with CEO compensation. The measure of firm size is found to significantly increase all CEO compensation components, with the exception of ESOs, at the 1% significance level. These results indicate that larger firms award their CEOs greater cash, non-cash, and total compensation, which reflects the operation complexity and the firm's ability to award higher compensation. Moreover, as larger firms have more operational complexity, they require high quality CEOs which leads to higher equilibrium compensation (Core et al., 1999) which logically justifies these coefficients.

This result is consistent with previous empirical evidence that found firm size plays a significant role in increasing managerial compensation (e.g. Finkelstein and Hambrick, 1989; Core et al., 1999; Talmor and Wallace, 2000; Mehran, 1995; Cyert et al., 2002; Conyon et al., 2009; Murphy and Sandino, 2010; Cadman, 2010).

Firm Performance

Two performance measures have been used to control for firm performance; previous year return on assets (ROA_{-1}) as an accounting-based measure, and previous year stock return (RET_{-1}) as a market-based measure. As expected, the results show that the lagged ROA has a positive and significant impact on SALARY, BONUS, TOTAL SHORT-TERM and TOTAL at the 1% significance level. However, other long-term components are found to be non-significantly related to ROA_{-1}, implying that firms tend to award their CEOs more salary, cash and total compensation if they have achieved a superior accounting-based performance in the previous year.

The second proxy for firm performance which measures market-based performance (RET_{-1}) has a positive and significant effect on BONUS at the 1% significance level. Surprisingly, the lagged stock return is found to significantly decrease the CEO salary at the 1% level. However, RET_{-1} is found to have no role in determining other CEO compensation components, including total compensation. The results of the lagged stock return suggests that CEOs are awarded more bonuses and less salary if their firms' stock return rose during the previous year.

These findings are consistent with previous research that found lagged firm performance is considered as an economic determinant for CEO and managerial compensation (e.g. Lambert et al., 1993; Boyd, 1994; Conyon and Peck, 1998; Core et al., 1999; Perry and Zenner, 2001; Brick et al., 2006; Bizjak et al., 2008; Murphy and Sandino, 2009; Sun and Cahan, 2009; Cadman, 2010).

Firm Growth Opportunities

The analysis of this study's measure of firm growth opportunities, which is market to book value (M2B), has shown inconclusive results. That is, the results demonstrate a non-significant association between M2B and CEO compensation. Consequently, a firm's growth opportunity is found to play no role in determining any CEO compensation components, with the exception of ESOs which, as expected, is significantly affected by this variable. An interpretation might be that market-to-book value might not reflect a firm's demand for higher-quality managerial talent. Some of the previous studies have found similar results with regard to some or all managerial compensation components (e.g. Conyon et al., 2009; Ozkan, 2007; Cadman, 2010). However, other empirical evidence has found a positive relationship (e.g. Core et al., 1999; Basu et al., 2007).

Leverage Ratio

Leverage ratio (LEV) represents the debt structure of the firm and thus has been widely used in previous studies to control for the effect of debt structure on managerial compensation (e.g.

Mehran, 1995; Bryan et al., 2000; Cyert et al., 2002; Basu et al., 2007; Brick et al., 2006; Minhat, 2008; Sun and Cahan, 2009). The results indicate that highly leveraged firms are found to award their CEOs less salary, bonuses, total short-term or cash, stock options, and total compensation. That is, LEV has a negative and significant impact on SALARY, TOTAL SHORT-TERM, and TOTAL at the 1% significance level, and BONUS and ESOs at the 5% and 10% significance levels respectively. However, other components (LTIPs and TOTAL LONG-TERM) are found to be non-significantly associated with LEV.

These negative relationships may support the argument that debtholders may substitute as a monitoring device (Jensen, 1986; Williamson, 1988). In line with these findings, previous studies have documented similar correlations between leverage ratio and executive compensation (e.g. Bryan et al., 2000; Cyert et al., 2002; Basu et al., 2007). However, Mehran (1995) found that leverage ratio has no impact on executive compensation, including CEO compensation.

Firm Risk (VOL)

The results of stock volatility (VOL), the proxy for firm risk, demonstrate that firm risk is negatively and significantly related to BONUS and TOTAL SHORT-TERM ($p<0.05$ and $p<0.10$, respectively). However, other CEO compensation components, including total compensation, are not affected by firm risk. These findings reject the theoretical argument that the riskiness of a business is an increasing function of executive compensation, since risk-averse managers might demand greater remuneration in a more risky business (Conyon et al., 2009). Others argue that the level of expected executive pay may either increase or decrease with firm risk (e.g., Banker and Datar, 1989; Core et al., 1999). Therefore, according to this ambiguous standpoint with regard to the impact of firm risk on the level and the structure of executive compensation, I cannot provide a theoretical interpretation for these findings, since this relationship is out of this study's scope.

Previous studies that controlled for the impact of firm risk on executive compensation also provide a similar association, i.e. negative and/or non-significant relationships, (e.g. Mehran, 1995; Core et al., 1999; Conyon et al., 2009; Knop and Mertens, 2010). However, other studies found that executives receive greater compensation in more risky businesses. For example, Cyert et al. (2002) noted a strong correlation between firm risk and executive compensation.

5.5 Further Analyses and Robustness Checks

5.5.1 Alternative Measurements of LTIPs and ESOs
Long-Term Incentive Plans (LTIPs)

As discussed in the previous chapter, Long-Term Incentive Plans (LTIPs) in the UK are typically linked to measures of firm performance and are usually conditional to increases in Earnings per Share (EPS) and/or Total Shareholder Return (TSR). Some researchers argue that remuneration committees design LTIPs and set performance conditions equal to their performance expectations, and thus measure LTIPs using the face value of the restricted performance shares at the grant date (e.g. Core et al., 1999; Eichholtz et al., 2008).

However, others take account of these performance conditions by discounting this component for the possibility of reaching the pre-award performance criteria. Researchers who follow this approach evaluate this element and discount it by 20% in order to reflect firms' performance condition (e.g. Conyon and Murphy, 2000; Conyon et al., 2001; Stathopoulos et al., 2005; Ozkan, 2007). Therefore, according to the latter mainstream argument, this study will take into account LTIPs' performance conditions and re-measure this component to reflect the firms' performance contingent. Although this percentage is neither methodologically nor theoretically justified, it will be utilised in order to facilitate the comparison with previous empirical evidence, and to check for the robustness of the results.

This study's main model is used to investigate the impact of the different corporate governance characteristics on LTIPs, discounted by 20% to reflect firms' performance contingent. Table 5.13 represents the GLS regression of the alternative measurement of LTIPs on the board, remuneration committee, ownership and control variables. The adjusted R-square obtained for this measurement is slightly higher than that obtained in the main analysis.

Consistent with the main analysis's findings, the results of the board composition show that the coefficient of NEDPAY is positive and significant at the 1% significance level. This confirms the main findings that non-executive directors' pay is an increasing function of the CEO LTIPs. Similarly, the remuneration committee directors' pay (RCPAY) is found to strongly increase CEO LTIPs under this measure. CEO ownership is also found to have a significant negative impact on LTIPs under this measurement. However, the variables of RCIND, RBDUAL, and CHOWN are non-significant according to this measure.

In line with the main results, all other independent variables are found to be non-significantly associated with LTIPs. Finally, the coefficients of all control variables are similar to those of the main test. Generally, most of the findings are consistent with the results of the main analysis. Therefore, these results make the main test findings insensitive and consistent with different measures of LTIPs.

Table 5.13 Results of the Alternative Measures					
Alternative measures for LTIPs and ESOs					
Variables	**LTIPs**			**ESOs**		
	Main res.	*Coef.*	*P>Z*	*Main res.*	*Coef.*	*P>Z*
Board Composition						
BSIZE		0.01369		(+) ***	0.020588	*
NEDs		0.108044			0.48918	
INDs		0.486895	*	(+)***	0.512319	*
DUAL		0.212699			0.047978	
NEDPAY	(+) *	0.073026	***	(-)***	0.010985	*
CHAIRIND		0.02663		(-)*	0.009013	
Remuneration Committee Composition						
RCSIZE		0.013654			-0.01308	*
RCIND	*	-0.11745			-0.19798	
RBDUAL	*	0.006064			0.263408	
RCTEN		-0.009			-0.02471	
CEOs		-0.00402			0.336773	
RCPAY	(-)*	-0.088383	***		0.258639	
Ownership Structure						
CEOOWN	(-)**	-2.403186	***		-0.51335	
CHOWN	(-)*	-0.11475			-0.33189	
INSOWN		0.333948			0.055555	*
Control Variables						
CEOAGE		-0.00272			-0.00633	
CEOTEN		0.008763	*	(-)**	0.003473	
TOTASSTs	(+) ***	0.141664	***		0.095524	
ROA_{-1}		0.006342	***		-0.00188	
RET_{-1}		-0.00408			0.01266	
M2B		-2.8E-05		(-)*	-0.00017	*
LEV		-0.28092	***	(-) **	-0.46649	*
VOL		0.0023		(-)*	-0.00706	
_cons		0.635542			0.688964	
Adj R-2		**23%**			**13%**	
Wald chi2		**136.26 *****			**31.23**	

Legend: * p<.1; ** p<.05; *** p<.01

Executive Stock Options (ESOs)

Evaluations of ESOs are more complicated than those of other elements as they require a combination of microeconomic and macroeconomic inputs to calculate results according to the different pricing formulas. Moreover, each measurement is expected to lead to different outcomes, which means each affects the interpretations of the findings (Core et al., 1999). A large number of

studies use the well-known Black-Scholes-Merton (1973) pricing methodology to evaluate new grants of ESOs (e.g. Brick et al., 2006; Ozkan, 2007a; Fahlenbrach, 2009; Conyon et al., 2009).

On the other hand, another direction taken by scholars is to employ a less complicated methodology and evaluate stock options at 25% of the exercise price. Studies which have applied this pricing methodology suggest that other sophisticated option pricing models, e.g. Black-Scholes and binomial, typically lead to results in this range, i.e. 25% (e.g. Lambert et al., 1993; Henderson and Frederickson, 1996; Core et al. 1999). Therefore, this study will apply this pricing technique and measure the CEO stock options at 25% of the exercise price as an alternative measure.

Consistent with the primary analysis's findings, BSIZE, INDs, NEDPAY are significantly associated with the level of ESOs under this evaluation. Moreover, all other variables of board of directors, remuneration committee, and ownership are found to be non-significantly correlated with ESOs. However, unlike the main test's coefficients, the chairman's independence is found to be non-significantly related to ESOs, whilst total institutional ownership (INSOWN) is found to significantly increase CEO stock options at the 10% significance level. The latter result of institutional ownership provides some evidence that institutional investors play a role in incentivising the CEO through increasing his/her stock options.

Additionally, all control variables are found to have no relationships with ESOs with the exception of leverage ratio and growth opportunities which have a negative and significant association with ESOs under this measurement. This is somewhat consistent with the primary findings. Although these results are similar to those of the primary test, the significance level of this evaluation of ESOs is lower than that of the main analysis. With the exception of changes in the coefficients of CHARIND and INSOWN, these results are totally consistent with the results of the main analysis. Hence, these results make the primary test findings insensitive and consistent with different measures of ESOs.

5.5.2 Different Estimation Methods

5.5.2.1 Fixed Effect Regression

As discussed in the methodology chapter, the GLS (random effect) is found to be a particularly relevant approach to use in analysing this study's data. The Hausman test has therefore been utilised to test this assumption and to find out which approach is more relevant to the data. According to this test, the random effect approach is supported by the non-significant correlation between X variables and the individual random effects ε_i. Therefore, based on the statistical justifications provided by Greene (2007) and Judge et al. (1985), and the Hausman test result, the random effect model was shown to be the rational choice in the primary analysis. However, in order to check the

results' robustness and sensitivity to alternative specifications, the fixed effects regression is employed in this section.

Table 5.13 presents the findings of the fixed effect regression. The R-squares are similar to those of the primary analysis with slight drops, especially in the R-2 of the model of CEO stock options, indicating that the models fit under both approaches. Generally, the directions of the relationships are similar, but with some minor changes. For example, the association between remuneration committee size and CEO salary is positive in the primary analysis but becomes negative under this regression. However, the associations under both estimations are non-significant, which does not affect the implications of the results.

Mainly the results are quite consistent across all models and lead in the same direction. Also, some of the findings for this regression give an extra explanation for the findings of the main test. For example, the relationship between the chairman's independence and the CEOs' long-term compensation was found to be positive and significant at a 10% significance level. However, the main test does not explain the source of this increase since the main long-term components are found to have a non-significant relationship with this variable. However, the fixed effect regression demonstrates that this increase may be primarily generated by the increase in LTIPs, which is found to be positive and significant ($p<0.10$) under this regression.

Although there are a few changes in the significance levels between these regressions, the two tests illustrate that the findings are insensitive to different estimation methods. For example, while the findings of the fourth model contain some slight changes for the impact of role duality, chairman independence and remuneration committee independence on CEO LTIPs, other models (i.e. SALARY, BONUS, TOTAL SHORT-TERM, TOTAL) show almost identical results to those of the main analysis. This strong consistency between the findings of the two estimations indicates that the results of the study are not sensitive to alternative estimation methods.

Table 5.14 Fixed Effect Regression
Sensitivity Analysis

	SALARY		BONUS		TOTAL SHORT-TERM		LTIPs		ESOs		TOTAL LONG-TERM		TOTAL	
	Coef.	z-value	Coef.	z-value	Coef.	z-value	Coef.	z-value	Coef.	z-value	Coef.	z-value	Coef.	z-value
Board of Directors Variables														
BSIZE	0.31	4.93***	0.02	0.44	0.03	3.87***	0.06	1.04	0.10	1.75*	0.05	1.15	0.48	3.89***
NEDs	0.61	4.68***	1.53	1.93*	078	4.21***	0.39	0.31	-1.16	-0.95	1.05	1.13	0.81	3.19***
INDs	0.29	1.99**	-0.07	-0.08	0.82	3.87***	-1.89	-1.32	5.35	3.88***	0.072	0.69	0.99	3.42***
DUAL	-0.01	-0.13	-1.54	-3.61***	-0.19	-1.87*	-1.18	-1.73*	013	0.20	-0.72	-1.46	-0.26	-1.89*
NEDPAY	0.62	5.17***	-0.05	-0.69	0.02	1.37	0.22	1.92*	-0.32	-2.8***	-0.07	-0.79	0.04	1.58
CHAIRIND	0.00	0.03	-0.01	-0.05	-0.01	.025	0.37	1.66*	-0.48	-2.22**	0.31	1.86*	-0.00	-0.00
Remuneration Committee Variables														
RCSIZE	-0.00	-0.02	-0.11	-1.70*	-0.05	-2.88***	-0.10	-0.91	0.05	0.53	-0.12	-1.58	-0.58	-2.71***
RCIND	-0.22	-2.67***	-0.47	-0.94	-040	-3.45***	1.18	1.50	-0.47	-0.62	0.13	0.23	-0.34	-2.12**
RBDUAL	0.04	0.82	-1.04	-3.30***	-0.07	-0.94	0.99	1.96**	-0.07	-0.14	0.47	1.28	0.017	0.16
RCTEN	-0.14	-2.95***	-0.04	-1.29	-0.02	-3.43***	-0.56	-1.26	0.03	0.71	0.01	0.45	-0.02	-1.96*
CEOs	-0.00	-0.01	0.38	1.17	0.14	1.80*	-0.09	-017	1.88	3.73***	0.72	1.90*	0.29	2.72***
RCPAY	0.08	3.45***	0.49	3.58***	0.21	6.49***	-0.65	-2.97**	0.35	1.65*	0.07	0.41	0.24	5.32***
Ownership Variables														
CEOOWN	1.58	4.71***	-0.36	-0.18	1.30	2.73***	-7.40	-2.30**	3.11	1.00	-6.14	-2.61***	0.99	1.51
CHOWN	-1.23	-5.63***	-1.41	-1.07	-1.05	-3.36***	-3.52	-1.67*	-2.57	-1.26	-4.66	-3.02***	-1.62	-3.80***
INSOWN	-0.08	-0.78	-1.08	-1.82*	-0.08	-0.57	0.31	0.33	-0.47	-0.51	0.22	0.31	0.14	0.07
Control Variables														
CEOAGE	0.01	5.16***	-0.01	-1.30	0.00	1.70*	-0.02	-1.19	-0.10	-0.62	-0.04	-2.97***	-0.01	-1.55
CEOTEN	0.01	2.69***	0.03	1.94*	0.01	3.81***	0.00	0.16	-0.03	-1.29	0.01	0.60	0.02	4.15***
TOTASSTs	0.13	10.6***	0.22	2.90***	016	8083***	0.52	4.28***	0.23	1.94**	0.51	5.79***	0.23	9.56***
ROA_{-1}	0.00	2.63***	0.03	4.94***	0.01	5.79***	0.00	1.18	0.00	1.10	0.01	0.95	0.01	3.86***
RET_{-1}	-0.10	-3.18***	1.28	6.81***	006	1.37	0.14	0.46	-0.52	-1.80*	0.08	0.36	-002	-0.26
M2B	-0.00	-0.14	-0.00	-0.03	0.00	0.25	-0.00	-0.03	-0.00	-1.31	-0.00	-0.16	-0.00	-0.26
LEV	-0.23	-3.58***	-1.23	-3.25***	-0.39	-4.35***	-0.023	-0.04	-1.11	-1.90*	-0.73	-1.65*	-0.57	-4.67***
VOL	-0.00	-1.28	-0.01	-1.66	-0.00	-1.22	-0.01	-0.97	0.01	0.99	0.00	0.48	0.00	0.29
_cons	3.76	24.8***	3.22	3.54***	4.00	18.59***	4.18	2.87**	-2.53	-1.80	2.86	2.69***	4.04	13.7***
Adj R-2	0.72		0.29		0.66		0.17		012		0.31		0.63	

Legend: * p<.1; ** p<.05; *** p<.01

5.5.2.2 Parametric OLS Regression and OLS Regression with Robust Standard Errors

5.5.2.2.1 Parametric OLS Regression

Due to the nature of this study's data, a non-parametric test has been employed. The assumptions or the conditions of the OLS estimates were investigated in the methodology chapter and GLS regression was methodologically and statistically found to be particularly relevant with regard to accomplishing this study's analysis. However, some researchers question the necessity or the need to meet the different assumptions or conditions of the OLS regression before adopting parametric analysis. For instance, a number of studies have evaluated the effect of non-normally distributed and unequal variance samples on the outcomes of parametric tests and concluded that there is little or non-significant impact in terms of these assumptions on these tests' results (see for example, Glass et al., 1972).

Although non-parametric tests are commonly employed in corporate governance and executive compensation studies, a large number of related studies have applied parametric tests and OLS regressions and have chosen to do nothing about the problem of not satisfying the parametric test assumptions or conditions (e.g. Lambert et al., 1993; Mangel and Singh, 1993; Mehran, 1995; Conyon and Peck, 1998; Core et al., 1999; Conyon and He, 2004; Ozkan, 2007a; Conyon et al., 2009; Murphy and Sandino, 2010; Byrd and Cooperman, 2010; Knop and Mertens, 2010).

Glass et al. (1972) found that many parametric techniques are not actually affected if the parametric assumptions are violated. In line with this argument, Keselman et al. (1998) suggested that authors of a large sample of articles from different 17 journals rarely take into consideration the parametric assumptions and usually choose analytical techniques that allow assumption violations. Breckler (1990) also noted that only 20% of studies in his sample of 72 studies refer to the condition of normality and only around 10% of them examine whether this condition has been met.

Table 5.14 demonstrates the findings under the pooled OLS regression. Similar R-squares are found between this regression and the primary one, with a slight increase in the ESOs model's R-2. Generally, the findings lead to the same conclusions with slight differences. Most of the findings of the first model, i.e. SALARY, conclude similar directions and significance levels, with slight changes. For example, while all board and ownership variables have similar relationships to those of the main test, some changes have been detected in the findings with regard to chairman ownership. While the main analysis shows that the effect of chairman ownership on CEO salary and LTIPs are negative and significant, the results of pooled OLS regression are non-significant. However, the impact of this

Table 5.15 Pooled OLS Regression

Sensitivity Analysis

	SALARY		BONUS		TOTAL SHORT-TERM		LTIPs		ESOs		TOTAL LONG-TERM		TOTAL	
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value
Board of Directors Variables														
BSIZE	0.03	4.26***	0.00	-0.02	0.03	3.49***	0.02	0.25	0.17	2.48**	0.04	0.82	0.04	3.12***
NEDs	0.61	3.62***	1.45	1.89*	0.77	3.64***	0.36	0.25	-1.07	-0.71	1.05	0.95	0.81	2.92***
INDs	0.29	1.76*	0.01	0.01	0.82	3.8***	-1.81	-1.21	5.12	3.18***	0.73	0.7	0.98	3.59***
DUAL	0.00	-0.02	-1.47	-2.39**	-0.17	-1.61	-1.03	-1.3	-0.09	-0.11	-0.68	-0.89	-0.24	-1.28
NEDPAY	0.06	5.06***	-0.06	-0.74	0.02	1.33	0.20	1.64	-0.28	-2.4**	-0.07	-1.13	0.04	2.03**
CHAIRIND	0.00	-0.09	-0.03	-0.22	-0.01	-0.42	0.31	1.36	-0.39	-1.72*	0.29	1.95*	-0.01	-0.16
Remuneration Committee Variables														
RCSIZE	0.00	0.12	-0.09	-1.52	-0.04	-2.77***	-0.06	-0.5	0.00	0.01	-0.11	-1.32	-0.05	-2.61***
RCIND	-0.21	-2.84***	-0.38	-0.77	-0.38	-3.31***	1.44	1.75*	-0.79	-0.9	0.22	0.36	-0.30	-1.88*
RBDUAL	0.04	0.64	-1.11	-2.51**	-0.08	-1.1	0.84	1.63	0.19	0.37	0.43	1.04	0.01	0.08
RCTEN	-0.01	-1.98**	-0.03	-1.22	-0.02	-3.43***	-0.05	-0.96	0.02	0.27	0.02	0.37	-0.02	-1.84*
CEOs	0.00	-0.02	0.37	1.33	0.14	1.85*	-0.09	-0.2	1.87	3.37***	0.72	2.38**	0.28	2.9***
RCPAY	0.09	2.79***	0.56	3.04***	0.22	5.08***	-0.46	-2.4**	0.03	0.14	0.12	0.82	0.25	4.65***
Ownership Variables														
CEOOWN	1.52	2.00**	-0.92	-0.29	1.17	2.02**	-8.43	-2.34**	4.46	1.74*	-6.47	-1.92*	0.83	1.13
CHOWN	-1.23	-1.49	-1.32	-0.85	-1.03	-1.93*	-3.51	-1.31	-2.62	-2.13**	-4.67	-1.9*	-1.62	-2.63***
INSOWN	-0.05	-0.37	-0.78	-1.28	-0.01	-0.07	0.96	1.01	-1.37	-1.37	0.42	0.6	0.10	0.53
Control Variables														
CEOAGE	0.01	4.64***	-0.02	-1.57	0.00	1.49	-0.02	-1.29	0.00	-0.28	-0.04	-2.36**	-0.01	-1.62
CEOTEN	0.01	2.93***	0.03	2.4**	0.01	3.93***	0.02	0.6	-0.04	-2.33**	0.01	0.54	0.02	3.94***
TOTASSTs	0.14	8.92***	0.24	2.92***	0.16	8.62***	0.56	4.65***	0.17	1.3	0.53	5.7***	0.24	9.16***
ROA_{-1}	0.00	2.72***	0.04	4.14***	0.01	5.05***	0.01	0.47	0.00	-0.09	0.01	0.83	0.01	3.47***
RET_{-1}	-0.11	-3.23***	1.18	5.32***	0.05	1.3	-0.30	-1.1	0.36	1.33	-0.04	-0.22	-0.01	-0.31
M2B	0.00	0.02	0.00	-0.03	0.00	0.23	0.00	0.04	0.00	-0.91	0.00	0.01	0.00	-0.13
LEV	-0.22	-3.46***	-1.19	-2.93***	-0.38	-4.25***	0.07	0.12	-1.27	-1.86*	-0.70	-1.46	-0.57	-4.47***
VOL	0.00	-1.35	-0.02	-1.68*	0.00	-1.55	-0.02	-1.2	0.02	1.25	0.00	0.29	0.00	-0.1
_cons	3.72	21.3***	2.91	3.15***	3.92	18.15***	3.28	2.25**	-1.16	-0.74	2.58	2.62***	3.96	13.9***
R-2	0.72		0.30		0.66		0.18		0.16		0.31		0.63	

Legend: * $p<.1$; ** $p<.05$; *** $p<.01$

variable on total short-term, total long term, and total compensation are still negative and significant, which leads to the same theoretical and empirical implications.

With the exception of the effect of CEO-chairman duality, the findings of the board of directors' variables have not changed under this estimation. With respect to the CEO duality, this variable is found to have no impact in determining the short-term and total compensation according to the OLS estimation, while it was significantly and negatively related to both dependent variables under the main estimation. Furthermore, some slight changes in some relationships' significance levels are found. For example, the impact of the non-executive directors and remuneration committee members' tenure increases from 10% to 5% under this test, while conversely the effect of CEO and chairman ownership on total long-term compensation decreases from 1% to 10%.

In sum, the pooled OLS regression provides consistent results with those of the main regression. However, as discussed earlier, it might be inappropriate to rely on the findings of OLS regression without meeting the parametric assumptions. Therefore, it can be concluded that although the parametric assumptions are not met, the findings of the models, with the exception of the CEO-chairman duality results, are strongly consistent under both panel and pooled, parametric and non-parametric tests.

Finally, in order to take advantage of the advantages of OLS estimation, together with checking the consistency of the study's finding in terms of different techniques and estimation methods, the OLS regression with robust standard errors (which corrects for one of the important parametric assumption which is the heteroscedasticity) is employed in the following section.

5.5.2.2.2 OLS Regression with Robust Standard Errors

Along with testing the sensitivity of the results using OLS regression, this study also employs OLS regression with robust standard errors. Using robust standard errors is suggested to control and correct for the problem of heteroscedasticity. That is, employing robust standard errors affects the standard errors and significance tests, but not the coefficient estimates by OLS, since it deals with the problem of errors that are not independent or identically distributed. Therefore, OLS regression with robust standard errors is statistically effective in dealing with the problem of heteroscedasticity.

As shown in Table 5.15, the results of the OLS regression with robust standard errors demonstrate a high level of consistency with the findings of the primary analysis under the GLS random effect. This shows that across around 105 relationships that have been examined in this study, only four differences have been detected between the results of this regression and those of the primary test.

This means that the results are 97% consistent. The relationship between the chairman ownership and LTIPs becomes non-significant, whereas it is significant at the 10% significance level under this estimation. Also, while the effect of CEO and chairman ownership on ESOs were non-significant under the main analysis, they become significant at the 10% and 1% significance levels according to this sensitivity test. Finally, the impact of role duality on total CEO compensation becomes non-significant under this test. Moreover, the significance levels of some of correlations have shifted, with some increasing and some decreasing. For example, among others, the significance level of the relationship between the remuneration committee members' tenure and CEO total compensation drops from 5% to 10%, whilst the significance level of the association between the non-executive directors' pay and CEO total compensation increases from 10% to 5%.

In conclusion, the GLS random effect is used as the primary estimation to analyse the data of this empirical model. However, in order to check the robustness and the sensitivity of the main analysis' findings, the fixed effect, pooled OLS regression and OLS regression with robust standard errors are utilised. As shown in Tables A.1, A.2, A.3, A.4, A.5, A.6, and A.7 in the appendices, the findings of these further analyses illustrate a strong level of consistency with those of the primary analysis, especially the fixed effect and robust estimations. Each significant relationship that is found in the primary analysis is confirmed by at least one further analysis. For example, when analysing the findings with regard to CEO total compensation, the significant effects of BSIZE, NEDs, INDs, RCSIZE, RCIND, CEOs, RCPAY, and CHOWN on CEO total compensation are supported by all other estimations (fixed effect, OLS, and OLS robust regressions). The finding of RCTEN is confirmed by fixed effect and robust regressions. Finally, the results of DUAL and NEDPAY are confirmed by only one estimation; namely, fixed effect regression and OLS robust regression, respectively. Accordingly, the findings of this study are consistent and robust to alternative specifications and thus the implications of these findings are statistically reliable.

Table 5.16 OLS Regression with Robust Standard Errors

Sensitivity Analysis

	SALARY		BONUS		TOTAL SHORT-TERM		LTIPs		ESOs		TOTAL LONG-TERM		TOTAL	
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value
Board of Directors Variables														
BSIZE	0.0288	4.45***	-0.0009	-0.02	0.0304	3.57***	0.0162	0.26	0.1698	2.55**	0.0364	0.85	0.0425	3.21***
NEDs	0.6133	3.93***	1.4508	1.97**	0.7749	3.76***	0.3647	0.26	-1.0708	-0.75	1.0471	0.99	0.8148	3.02***
INDs	0.2946	1.88*	0.0067	0.01	0.8228	3.92***	-1.8124	-1.25	5.1249	3.28***	0.7276	0.73	0.9812	3.69***
DUAL	-0.002	-0.02	-1.4715	-2.57**	-0.1729	-1.74*	-1.0281	-1.4	-0.0872	-0.12	-0.6785	-0.97	-0.2426	-1.38
NEDPAY	0.0616	5.34***	-0.0566	-0.78	0.0227	1.38	0.2042	1.69*	-0.2806	-2.5**	-0.0702	-1.17	0.0375	2.11**
CHAIRIND	-0.0022	-0.1	-0.0298	-0.23	-0.0141	-0.43	0.3081	1.38	-0.3899	-1.75*	0.2852	1.98**	-0.0075	-0.17
Remuneration Committee Variables														
RCSIZE	0.0014	0.12	-0.0936	-1.56	-0.0409	-2.83***	-0.0595	-0.51	0.0016	0.01	-0.1108	-1.36	-0.0536	-2.67***
RCIND	-0.2060	-2.96***	-0.3823	-0.81	-0.3790	-3.45***	1.4381	1.8*	-0.785	-0.92	0.2171	0.37	-0.3034	-1.96*
RBDUAL	0.0384	0.68	-1.1067	-2.63***	-0.0816	-1.16	0.8429	1.72*	0.1931	0.39	0.4301	1.1	0.0085	0.08
RCTEN	-0.0136	-2.51**	-0.0335	-1.4	-0.0224	-3.61***	-0.0502	-1.09	0.0167	0.34	0.0159	0.39	-0.0180	-1.95*
CEOs	-0.0009	-0.02	0.3723	1.37	0.1360	1.89*	-0.0892	-0.21	1.8727	3.44***	0.7221	2.43**	0.2842	2.96***
RCPAY	0.0852	3.07***	0.5616	3.4***	0.2233	5.47***	-0.4618	-2.5**	0.0284	0.15	0.1188	0.86	0.2482	5.04***
Ownership Variables														
CEOOWN	1.5211	2.42**	-0.9208	-0.33	1.1705	2.26**	-8.4332	-2.56**	4.4552	1.83*	-6.4656	-2.11**	0.8328	1.27
CHOWN	-1.2325	-1.82*	-1.3155	-0.96	-1.0334	-2.22**	-3.513	-1.52	-2.6215	-2.23**	-4.6659	-2.22**	-1.6190	-3.02***
INSOWN	-0.0463	-0.41	-0.779	-1.32	-0.0096	-0.07	0.9647	1.04	-1.368	-1.4	0.4208	0.62	0.0972	0.54
Control Variables														
CEOAGE	0.0091	4.86***	-0.0163	-1.62	0.0039	1.53	-0.0245	-1.32	-0.0048	-0.29	-0.0388	-2.43**	-0.0059	-1.66*
CEOTEN	0.0063	3.16***	0.0294	2.52**	0.0127	4.06***	0.0151	0.63	-0.0431	-2.5**	0.0128	0.56	0.0186	4.07***
TOTASSTs	0.1367	9.49***	0.2398	3.12***	0.1633	8.91***	0.5646	4.81***	0.1697	1.34	0.5275	5.93***	0.2414	9.51***
ROA$_{-1}$	0.0034	2.94***	0.0378	4.42***	0.0104	5.44***	0.0058	0.54	-0.001	-0.09	0.0091	0.93	0.0099	3.74***
RET$_{-1}$	-0.1086	-3.59***	1.1815	5.82***	0.05	1.37	-0.2962	-1.14	0.3626	1.43	-0.0393	-0.23	-0.0145	-0.32
M2B	0	0.1	-0.0001	-0.22	0.0001	1.26	0.0005	0.43	-0.0022	-4.5***	0	0.04	0	-0.14
LEV	-0.2215	-3.59***	-1.1947	-3.04***	-0.3814	-4.35***	0.0738	0.13	-1.2730	-1.92*	-0.7001	-1.5	-0.5651	-4.56***
VOL	-0.0019	-1.4	-0.0159	-1.77*	-0.003	-1.61	-0.0162	-1.24	0.0156	1.28	0.0029	0.3	-0.0003	-0.11
_cons	3.7215	23.2***	2.9074	3.36***	3.9242	18.94***	3.2805	2.31**	-1.1574	-0.77	2.5832	2.7***	3.9614	14.5***
R-2	0.70		0.29		0.63		0.17		0.15		0.30		0.60	

Legend: * p<.1; ** p<.05; *** p<.01

5.6 Overall Summary

CEO compensation arrangements have been viewed as an important tool in mitigating the conflict between shareholders and executives in public firms and, clearly, incentivising managers to perform their duties is in the best interests of shareholders. Hence, it is important to investigate what elements or factors play roles that in determining the level and structure of CEO compensation. This empirical study provides additional empirical evidence on the determinants of managerial compensation, and displays the impact of a set of corporate governance and ownership structures on the level and structure of CEO compensation for a sample of 216 UK firms (851 observations) listed in the FTSE 350 over the period of five years that ends in 2008.

Two types of analyses are employed to analyse the data of this study; namely univariate and multivariate. The univariate analysis uses both a t-test and z-test, while the multivariate test applies a regression analysis. Moreover, a few further analyses are adopted as sensitivity or consistency tests and, generally, it can be claimed that the findings are robust, consistent and not sensitive to different estimation methods and alternative specifications.

This study shows that, after controlling for the standard economic determinants of compensation (i.e. human capital characteristics, previous firm performance, risk, and growth opportunity), the characteristics of board of directors, remuneration committee and ownership are clearly associated with the level and structure of CEO compensation. In terms of the board of directors' composition, board size, the proportion of non-executive directors, the proportion of independent directors and the non-executive directors' pay are found to be an increasing function of total CEO compensation. Also, I find strong evidence that the CEO-chairman duality negatively affects the total compensation of CEOs. However, although the chairman's independence is found to play a role in determining the structure of CEO compensation, it is found to play no role in determining the level of total CEO compensation.

The findings from analysing the effects of the board size variable support the argument that larger or overcrowded boards are less effective due to the lack of coordination and communication between the directors. In contrast, smaller boards seem to be more likely to perform effectively and are more difficult to be influenced by management (Lipton and Lorsch, 1992; Jensen, 1993; Ozkan, 2007), which supports the managerial power perspective. Conversely, the results of the proportion of non-executive directors and the percentage of independent directors, causes us to reject the monitoring or the interests' alignment hypothesis of agency theory and provides strong support to the stewardship theory. That is, while agency theory suggests that independent directors play an important role in aligning the interests of agents with those of shareholders by providing firms with

effective monitoring, the stewardship theory believes that boards that are dominated by executive directors are more desirable, as they can supply their firms with more efficient control decisions and consultations due to their commitment to the firm, their business expertise and their access to information.

Similarly, the CEO-chairman duality results refute the agency perspective which argues that the CEO-chairman duality increases the agency problem by giving the CEO an opportunity to maximise his/her benefits rather than shareholders value. Also, these results are inconsistent with the managerial power approach which assumes that the duality of the positions of CEO and chairman of the board reduces the board's independence and increases the managerial influence over control decisions, including the level of executive compensation. Therefore, the findings are consistent with stewardship theory which suggests that opportunistic managerial behaviour does not arise from one individual holding the two positions and asserts that the CEO is believed to both work in the best interests of the firm and be a good steward of the shareholders' assets. Thus, the CEO is far from taking advantage of this concentration of power and authority and "being an opportunistic shirker" (Donaldson and Davis, 1991: 51).

However, agency theorists will find little support from the findings with regard to chairman independence. Although chairman independence is found to have no impact on the level of total CEO compensation, the coefficient of the total CEO long-term compensation provides some evidence that an independent chairman may play a role in incentivising managers by awarding them greater long-term performance-related compensation, which is believed to increase pay-performance sensitivity and thus better align the interests of managers and shareholders. Finally, the findings with regard to non-executive directors' pay indicate that a greater level of directors' pay not only increases agency costs by increasing the levels of both CEO and non-executive directors' compensation, but also negatively affects pay-performance sensitivity through decreasing the executive stock options, which can be interpreted under the cronyism hypothesis, which argues that directors and managers increase their own utilities at the expense of shareholders (Brick et al., 2006).

With respect to the remuneration committee structure, it is found that the remuneration committee size, the remuneration committee independence and the tenure of the committee members are negatively and significantly associated with total CEO compensation. Contrastingly, the proportion of CEOs of other firms on the remuneration committee and the remuneration committee members' pay are found to play a significant role in increasing the total CEO compensation. However, the

duality of a chairmanship of both the board and the remuneration committee is found to have no impact on the level of total CEO compensation.

The coefficients of remuneration committee size imply that larger remuneration committees perform better, and have a strong function in both determining executive compensation and monitoring management through decreasing the total CEO compensation and setting challenging compensation for him/her by reducing the cash compensation components, which are favourable for CEOs. In contrast, as the remuneration committee size gets smaller, executive remuneration decisions are less independent and more favourable for the CEO (i.e. more cash and total compensation). However, no evidence is found to claim that such committees enhance pay-performance sensitivity through increasing the equity-based components.

Consistent with agency theory, the results imply that independent remuneration committees play an important role in monitoring the management and setting executive compensation in favour of shareholders. Therefore, independent remuneration committees are predicted to help in mitigating the agency problem by setting appropriate compensation arrangements that are expected to align the interests of managers with those of shareholders. Conversely, although the duality of the board and committee chairmanship is found to have no impact on the level of CEO compensation, it is indeed found to play an important role in incentivising managers through setting appropriate executive compensation, which questions the need for such a separation according to the Code's requirements.

The significant adverse impact of remuneration committee members' tenure on CEO compensation components supports the argument that directors with longer tenure are predicted to have greater internal governance experience and thus strengthen internal governance through monitoring managers more effectively and providing their firms with higher control quality. This gives some support to the expertise hypothesis (Buchanan, 1974; Salancik, 1977; Vance, 1983; Vafeas, 2003b), which suggests that directors who have served on the remuneration committee for a long time are less likely to be influenced by the CEO and probably show more loyalty to the firm with stronger independence from the management.

A theoretical implication of the results of the impact of CEOs of other firms on the remuneration committee is that such directors award their colleagues (the CEO) the level and structure of pay arrangements that they prefer for themselves (i.e. more cash components and higher levels of total compensation) (Harris and Raviv, 1979; Mehran, 1995), which reflects some features of managerial power over the remuneration committee's decisions (O'Reilly et al., 1988; Weshphal and Zajac 1997;

Conyon and He, 2004). Therefore, CEOs of other firms serving on the remuneration committee are found to weaken the governance structure through supporting the CEO and hence increasing agency problems. Although the results indicate that this variable leads to lower governance quality through increasing the cash and total compensation, some evidence is found that this proportion of directors might play a role in motivating managers to improve the firm's performance through increasing both ESOs and total long-term compensation, compensation mechanisms which aim to challenge the CEO to maximise the shareholders' value.

Finally, consistent with the findings of non-executive directors' pay, the results of the remuneration committee members' pay provide strong evidence for the cronyism hypothesis. The results of this variable indicate that highly compensated committees damage the governance quality and increase the agency problem. Accordingly, shareholders of such firms not only incur ineffective extra agency costs because of a gift-exchange relationship between executives and external directors at the expense of shareholders, but also see wealth creation inhibited by negatively affecting the executives' incentive to increase the firm's value.

In terms of ownership structure, it can be noted that CEOs receive higher annual salaries and cash compensation and lower long-term compensation as their ownership increases. These results imply that the CEO ownership increases his/her power or influence on the control decisions and thus his/her compensation, which provides strong support for the managerial power theory. Interestingly, the results indicate that chairmen with higher equity holdings play an effective monitoring role by decreasing the CEO salary and other compensation variables, including the total CEO compensation. These results support the interests' alignment hypothesis which suggests that chairman ownership plays a significant role in motivating the chairman of the board of directors to monitor management and ultimately reduce agency problems (Shivdasani, 1993; Vafeas, 2003b). However, I found no evidence that institutional investors play a role in determining the CEO's compensation, suggesting that institutional shareholders in UK firms are passive and ineffective in terms of monitoring.

The results of the control variables suggest that longer-tenure CEOs are awarded greater compensation. Also, older CEOs are found to receive higher salaries. These findings may reflect the firms' demand for CEOs with higher skills and experience, or it may reflect some aspects of managerial power that increases as their tenure increases. Furthermore, CEOs of larger firms receive higher compensation, which may reflect the firms demand for higher quality CEO talent. However, the proxy for growth opportunities (i.e. market-to-book value) has a non-significant impact on CEO compensation.

Highly leveraged firms are found to award their CEOs less bonus, total short-term or cash, stock options, total long-term or non-cash and total compensation. This implies that debtholders may substitute as an effective monitoring device. The results of stock volatility, this study's proxy for firm risk, shows that firm risk is negatively and significantly related to CEO bonus, total short-term and total compensation. Finally, two performance measures are used to control for firm performance; namely, lagged return on assets and lagged stock return. The results show that the lagged ROA has a positive and significant impact on CEO bonuses, total short-term and total compensation. Similarly, the results of the lagged RET suggest that if their firms' stock return rose during the previous year then, CEOs are awarded more bonuses and total short term compensation but less salary.

Overall, the results of the proportion of non-executive, independent directors and the CEO-chairman duality provide a great deal of support for the stewardship theory. On the other hand, there is strong support for agency theory and the interests' alignment hypothesis in terms of the chairman's independence, the remuneration committee's independence, and chairman share ownership. Furthermore, great support is provided for the cronyism hypothesis. The findings in terms of the non-executive directors' compensation and the remuneration committee members' pay are found to significantly increase CEO compensation, which reflects some aspects of cronyism relationships between non-executive directors and managers. Finally, some evidence is found for the managerial power or the rent extraction theory by the findings of board size, CEOs of other firms on the remuneration committee and CEO share ownership.

Moreover, the recommendations of the UK Corporate Governance Code with respect to board size, chairman independence, remuneration committee size and independence have received some support from the findings of this empirical study. Clearly, firms with smaller boards of directors, larger remuneration committees and independent remuneration committees enjoy better quality corporate and compensation governance. However, the Code's requirements in terms of board independence, CEO-chairman duality, the duality of the board and remuneration committee chairmanship are not supported by this empirical study's findings. The CEO-chairman duality, the duality of the board and remuneration committee chairmanship are found to play a positive role in enhancing compensation governance, whereas the Code firmly requires companies to separate these positions by using two individuals. Also, while the Code has emphasised the need of the board of directors to be comprised of a majority of independent directors, the results indicate that this proportion negatively affects executive compensation quality.

Chapter Six

Remuneration Consultants and CEO Compensation: Data Analysis and

Discussion

6.1 Introduction

This chapter presents and discusses the findings of the data analysis of the second empirical model which investigates the role and effect of remuneration consultants in setting CEO compensation according to the research methods that were discussed in the methodology chapter. Descriptive analyses and multivariate tests are performed with the objective of providing empirical evidence to answer the main study question: *To what extent do remuneration consultants play a role in incentivising managers and setting appropriate compensation?*

In this chapter, the hypotheses that were developed in the methodology chapter are tested using the second empirical model. In order to avoid replication and since this empirical model uses the same dependent variables (i.e. CEO compensation variables) that are used in the first model, this chapter will start by demonstrating and discussing the descriptive statistics of the independent variables (i.e. remuneration consultants' variables) in Section 6.2. Section 6.3 then illustrates the correlation coefficients whilst section 6.4 presents and discusses the findings of the hypotheses' testing. Section 6.5 discusses the sensitivity and further analyses and, finally, section 6.6 summarises the chapter and results.

6.2 Descriptive Analysis for Remuneration Consultant Variables

Table 6.1 presents the descriptive statistics with regard to the study's remuneration consultant variables. The mean of the variable USECON illustrates that, on average, around 91% of firms in the sample use remuneration consultants, suggesting that the use of such consultants is a common practice in UK firms. This average is similar to those of previous studies in the UK. For example, Conyon et al. (2009), Goh and Gupta (2010), and Conyon et al. (2011) noted that the average use of remuneration consultants in their samples was 91%, 90%, and 89%, respectively. Moreover, Cadman et al. (2010) found similar results (i.e. 86%) using a sample of US firms.

However, Voulgaris et al. (2010) found that a relatively lower percentage of firms use remuneration consultants in their sample. They noted that around 75% of firms use consultants. However, one interpretation of this different finding is that Voulgaris et al. (2010) used a sample that contains firms from the Small Cap firms. After dividing their sample according to indices, this percentage

increases to 88% and 86% in firms listed in the FTSE 250 and the FTSE 100 respectively, which supports that notion that the use of remuneration consultants is more popular in larger firms.

The table shows that the mean (median) of the number of consultants is 1.66 (1) and varies from one to six. However, Minhat (2008) documented a slightly higher mean and median (i.e. 2) in a sample of UK firms. This might be due to the fact that a sample with different characteristics was used (i.e. different sizes and time periods). On the other hand, it is found that around 64% of firms in the sample had received other services from their remuneration consultants, implying that using the remuneration consultants for multiple tasks is common practice in UK firms. Conyon et al. (2011) found a relatively lower percentage, however, observing that only around 55% of firms in their study received other services from their remuneration consultants in 2003.

With respect to the remuneration consultants' appointment, around 66% of remuneration consultants in the sample are found to be hired by the remuneration committee, suggesting that the majority of firms try to comply with the related regulatory requirements by handing over the responsibility of hiring the remuneration consultant to the board of directors and the remuneration committee. Nonetheless, 34% of remuneration consultants are still engaged by management. This finding is highly consistent with that of Conyon et al. (2011) who found that around 63% of remuneration committees take the responsibility for appointing their consultants. However, Murphy and Sandino (2010) found a substantially lower percentage of US consultants are hired by the remuneration committees (i.e. 40%), implying that UK firms are more likely to comply with the regulatory requirements than US ones.

Variables	N	Min	mean	Max	Median	Sd	skewness	kurtosis
USECON	1084	0	0.908672	1	1	0.288209	-2.83725	9.050003
NCON	1084	0	1.663284	6	1	1.138635	0.959144	3.638978
OTHER	853	0	0.642439	1	1	0.479563	-0.59438	1.353291
APPOINT	767	0	0.659713	1	1	0.474115	-0.67417	1.454508
MSHARE	984	0.0026	0.158014	0.465	0.164	0.093798	0.166463	2.181468
SPEC	985	0	0.476565	1	0.5	0.422798	0.144027	1.377348
USELEGAL	985	0	0.100474	1	0	0.205996	2.381752	9.0502
SWITCH	984	0	0.117886	1	0	0.322637	2.369894	6.616399
B6	983	0	0.637843	1	1	0.480868	-0.5736	1.329019

Table 6.1 Descriptive statistics of remuneration consultant variables for the pooled sample

The average (median) market share of remuneration consultants of firms is about 16% (16.5%) with a range of 0.0026% to 46.5%, whilst a full 63% usage of remuneration consultants is concentrated

amongst the big six consulting firms. Around 48% of the firms are found to use specialised consultants. The descriptive statistics shows that about 10% of firms and/or remuneration committees use remuneration legal advisors. Finally, only 11.7% of firms in this study's sample had switched or changed their remuneration consultants during the period of the study.

The results from the pool sample for all firm years discussed above are for all firms in the sample. However, it is interesting to investigate the differences in firms' strategies in the use of remuneration consultants with different characteristics among the different industries. Table 6.2 represents the mean of remuneration consultants' variables accounting for differences in industry sectors for all firms in the sample. In terms of the use of remuneration consultants, the industrial firms seem to be the firms displaying the strongest with demand for remuneration consultants' services (i.e. 94%) compared with those in different sectors (in comparison only 79% of IT firms are found to hire consultants to help in determining managerial compensation). SERVS and UTILS have similar means and are close to the average of the pool sample.

Table 6.2 Mean of Consultant variables accounting for difference in industry sectors, pool sample of 2004-2008

Variables	INDUSTS	SERVS	UTILS	ITS	POOL
USECON	0.935551	0.912467	0.887097	0.794118	0.908672
NCON	1.756757	1.578249	1.524194	1.705882	1.663284
OTHER	0.659204	0.650519	0.484849	0.746032	0.642439
APPOINT	0.62069	0.741573	0.715909	0.453125	0.659713
MSHARE	0.164742	0.150385	0.141281	0.175838	0.158014
SPEC	0.517519	0.43406	0.453939	0.460288	0.476565
USELEGAL	0.078667	0.123159	0.100909	0.124691	0.100474
SWITCH	.12222	0.116618	0.081818	0.148148	0.117886
B6	0.615556	0.669591	0.618182	0.654321	0.637843

The use of multiple consultants seems to be common practice in firms across all sectors, with no significant differences in the means. On the other hand, IT firms are found to be in the majority of firms that use remuneration consultants for multiple tasks. That is, around 75% of IT firms receive other services from the remuneration consultants, whereas only 48% of the utility firms utilise their remuneration consultants for other services. Moreover, IT firms are found to be less compliant with the regulatory requirement in terms of the appointment process associated with remuneration consultants. Only 45% of IT firms hand over the responsibility of appointing remuneration consultants to their remuneration committees, implying that the majority of remuneration consultants that work in this sector are engaged directly by management. The services sector seems

to be the most compliant sector in terms of this requirement, in that around 74% of remuneration consultants in this sector work exclusively for the remuneration committees.

While more than half of the industrial firms (i.e. 52%) hire specialised remuneration consultants, the majority of firms in the other sectors use non-specialised consultants, suggesting that most industrial firms prefer specialised consultants compared with other firms. However, industrial firms are found to make less use of legal advisors. That is, only 7.8% of industrial firms received compensation legal advice from professional legal advisors, whereas ITS and SERVS were found to make relatively more use of legal advisors for compensation purposes. Finally, with respect to remuneration consultants' turnover, about 15% of IT firms changed their consultants during the five-year period, while only 8% of utility firms did so.

In order to enable comparison between year's means, together with the mean of the pooled sample, and to capture the changes in firm's strategies in terms of remuneration consultants, Table 6.3 presents the evolutions and trends of the averages of remuneration consultants' variables during the period of the study (i.e. 2004-2008). It is noticeable that the use of remuneration consultants has gradually increased from 88% in 2004 to 93% in 2008, suggesting that more firms tend to hire consultants in order to legitimise their executive compensation practices. Conversely, the use of multiple remuneration consultants reached a peak in 2006 then decreased slightly thereafter.

Table 6.3 Mean of consultant variables accounting for difference between years

Variables	2004	2005	2006	2007	2008	POOL
USECON	0.883249	0.876191	0.922018	0.926087	0.930131	0.908672
NCON	1.548223	1.685714	1.733945	1.673913	1.663755	1.663284
OTHER	0.626761	0.632911	0.668571	0.640625	0.639785	0.642439
APPOINT	0.649254	0.632653	0.622642	0.672515	0.717949	0.659713
MSHARE	0.15118	0.147506	0.163363	0.161251	0.164356	0.158014
SPEC	0.437452	0.448641	0.465672	0.503756	0.515728	0.476565
USELEGAL	0.08113	0.113134	0.106882	0.097027	0.102739	0.100474
SWITCH	.	0.141304	0.159204	0.150235	0.108491	0.117886
B6	0.591954	0.595628	0.63	0.676056	0.680751	0.637843

A noticeable change has occurred during the period of the study in the firms' tendency to use specialised remuneration consultants. In 2004, around 43% of firms in the sample used specialised consultants. However, this average had increased to 51.5% by 2008. Finally, while no significant change was detected in the average of firms that switched their remuneration consultants during

the period 2004-2007, this average had significantly decreased in the last year (i.e. 2008) to around 10%.

With respect to using remuneration consultants for multiple tasks, Table 6.4 and Figure 6.1 together with Table 6.1 provide comprehensive descriptive statistics for the changes in firms' tendencies to engage (or not to engage) with their remuneration consultants in other business, or to choose to not disclose this information. As shown in Table 6.4, in 2004 around 51% of firms received other services from their remuneration consultants. However, this percentage dramatically increased to around 58% in 2007, suggesting that many firms tended to engage their remuneration consultants in supplying multiple services. More interestingly, following a sustained period from 2004-2007 where disclosure quality seems to have been being improved, a significant sharp reversal in the disclosure quality occurred in 2008. While the percentage of "not disclosed firms" with regard to this information had decreased from around 18% in 2004 to around 9% in 2007, this percentage increased again to around 12% in 2008. This change in disclosure quality might be an epiphenomenal effect of the pressure that followed the year of the worst global financial crisis in living memory. This may imply that in the emotive anti-greed environment observed in 2008, some firms might have been motivated to hide and downplay information that related to their executive compensation practices.

Figure 6.1: Changes in firms' strategies in terms of receiving other services from their remuneration consultants
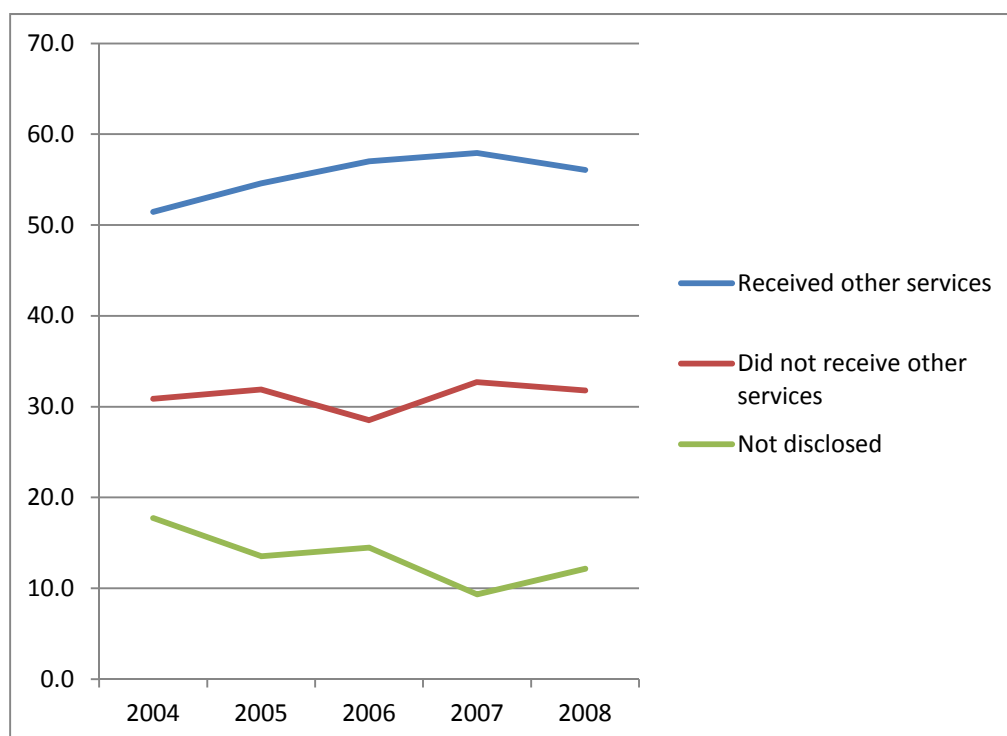
Table 6.4 Number Percentage of firms that receive other services from their remuneration consultants in the time period of the study

	2004		2005		2006		2007		2008		Pool	
	#	%	#	%	#	%	#	%	#	%	#	%
Received O.S.	90	51.4	101	54.6	118	57.0	124	57.9	120	56.1	553	55.6
Did not receive O.S.	54	30.9	59	31.9	59	28.5	70	32.7	68	31.8	310	31.2
Not Disclosed	31	17.7	25	13.5	30	14.5	20	9.3	26	12.1	132	13.3
Total	175		185		207		214		214		995	

Table 6.5 and Figure 6.2 also show the changes in firms' policies in terms of the remuneration consultants' appointment. Although the regulatory requirements emphasise the importance of ensuring the independence of remuneration consultants through a robust appointment process (UK Corporate Governance Code, 2003), the firms in this study's sample show a low level of compliance with these requirements. That is, during the five-year period, the proportion of remuneration consultants appointed by remuneration committees increased by only 2.5%, whilst the proportion of remuneration consultants appointed by management (or their representatives) slightly decreased from 27.4% in 2004 to 26.6% in 2007. However, a significant decrease is noted in this proportion in 2008 by around 5.6%. This may reflect the reporting practices in the year that followed the financial crisis. The increase in the firms that chose not to disclose, from 19.2% in 2007 to 26.2% in 2008, may also provide some supports for this argument.

Figure 6.2: Changes in firms' policies in terms of the remuneration consultants' appointment
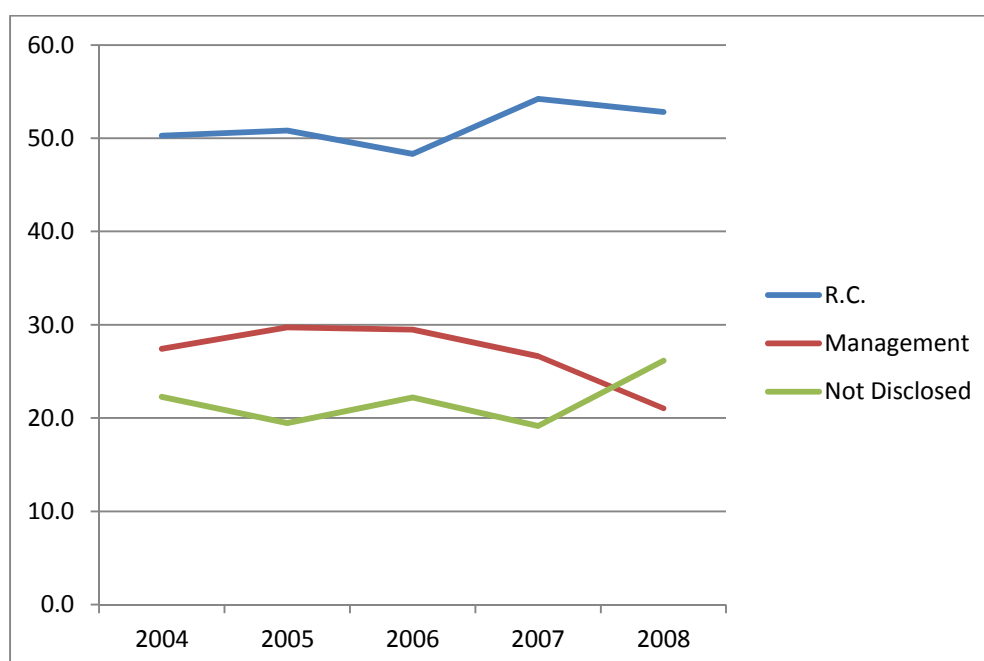
Table 6.5 The changes in firms' policies in terms of the remuneration consultants' appointment

The Consultant appointed by	2004		2005		2006		2007		2008		Pool	
	#	%	#	%	#	%	#	%	#	%	#	%
The Committee	88	50.3	94	50.8	100	48.3	116	54.2	113	52.8	511	51.4
The Management	48	27.4	55	29.7	61	29.5	57	26.6	45	21.0	266	26.7
Not Disclosed	39	22.3	36	19.5	46	22.2	41	19.2	56	26.2	218	21.9
Total	175	100	185	100	207	100	214	100	214	100	995	100

Table 6.6 demonstrates the frequency distribution of firms use of remuneration consultants during the period of the study. In 2004, around 11% of the firms did not report that they used consultants. However, this percentage decreased to 7% in 2008, implying that the use of consultants had increased by 4% during these five years. As shown in Table 6.6 and Figure 6.3, approximately half of the firms that used remuneration consultants, reported that they used only one consultant. However, there are a significant proportion of firms which use more than one consultant.

Table 6.6 The frequency distribution of remuneration consultants used by sample firms

Number of consultants	2004		2005		2006		2007		2008		Pool	
	#	%	#	%	#	%	#	%	#	%	#	%
0	22	11.1	25	11.9	16	7.3	17	7.3	17	7.3	97	8.9
1	93	52.2	93	49.5	97	47.3	113	52.1	114	52.5	510	50.7
2	48	27.0	43	22.9	58	28.3	58	26.7	59	27.2	266	26.5
3	23	12.9	27	14.4	30	14.6	24	11.1	23	10.6	127	12.6
4	13	7.3	22	11.7	16	7.8	16	7.4	16	7.4	83	8.3
5 or more	1	0.6	3	1.6	4	2.0	6	2.8	5	2.3	19	1.9
Total	200		213		221		234		234		1102	

Figure 6.3: The use of one or more remuneration consultants
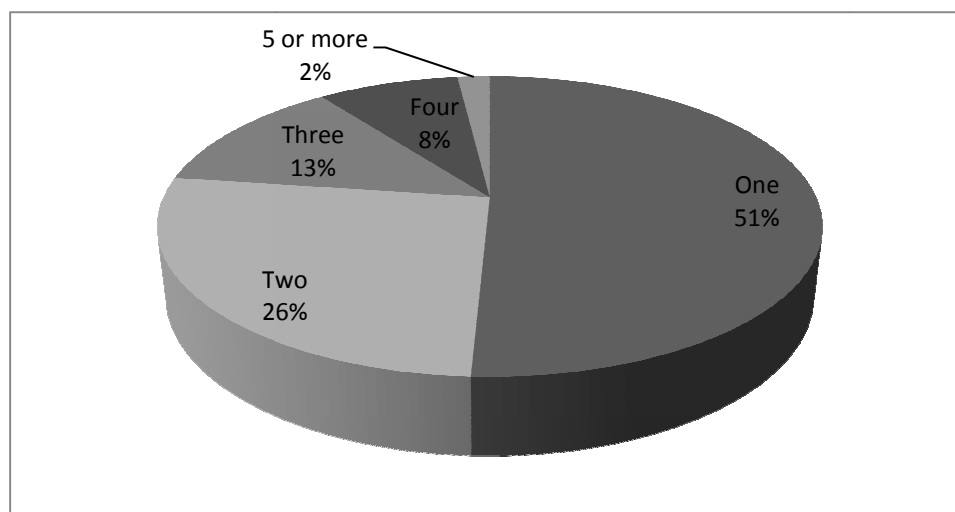
About 26.5%, 12.6%, 8.3% and 2% of firms were found to use two, three, four and five or more consultants respectively. These findings are completely consistent with those of Conyon et al. (2011) who found that 11% of firms do not use consultants and around 48% and 26% use one and two consultants respectively. Minhat (2008) also noted similar statistics. Other than the changes in firms that do not use consultants, no significant changes were found in firms' strategies with regard to using one or multiple consultants during the five-year period.

Table 6.7 and Figures 6.4 and 6.5 illustrate the exact number of remuneration consultants used by firm in the study's sample. Also, the table demonstrates the changes in the consultants' market share during the period of the study. The firms in the sample are found to use 77 different remuneration consultants. This is similar to Minhat (2008) who found that 83 consultants were employed by 175 UK firms in the sample analysed, and Murphy and Sandino (2010) who noted the use of 72 consultants in the US.

Out of 1,706 remuneration consulting contracts, the largest six remuneration consultants are found to dominate the market by having secured around 1,040 (i.e. 58%) of these contracts, while the other 71 consultants shared the rest (i.e. 42%). Consistently, Minhat (2008) found that the six largest consultants dominated around 60% of the total contracts across the sample.

Table 6.7 The frequency distribution of the big six remuneration consultants used by sample firms												
Name of Consultants	**2004**		**2005**		**2006**		**2007**		**2008**		**Pool**	
	#	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**
No consultant used	22	11.1	25	11.9	16	7.3	17	7.3	17	7.3	97	8.9
NBSC	65	21.3	73	20.6	85	22.5	86	22.3	89	23.4	398	22.1
Towers Perrin	41	13.4	40	11.3	44	11.6	38	9.9	35	9.2	198	11.0
Deloitte	20	6.6	20	5.6	28	7.4	36	9.4	35	9.2	139	7.7
Kepler Associates	15	4.9	18	5.1	23	6.1	34	8.8	31	8.1	121	6.7
Mercer	17	5.6	20	5.6	20	5.3	20	5.2	18	4.7	95	5.3
Watson Wyatt	19	6.2	21	5.9	18	4.8	16	4.2	15	3.9	89	4.9
Total BIG 6	*177*	*58.0*	*192*	*54.2*	*218*	*57.7*	*230*	*59.7*	*223*	*58.5*	*1040*	*57.7*
Others	128	42.0	162	45.8	160	42.3	155	40.3	158	41.5	763	42.3
Total	**305**		**354**		**378**		**385**		**381**		**1803**	

Figure 6.4: The market share of the six biggest and other remuneration consultants
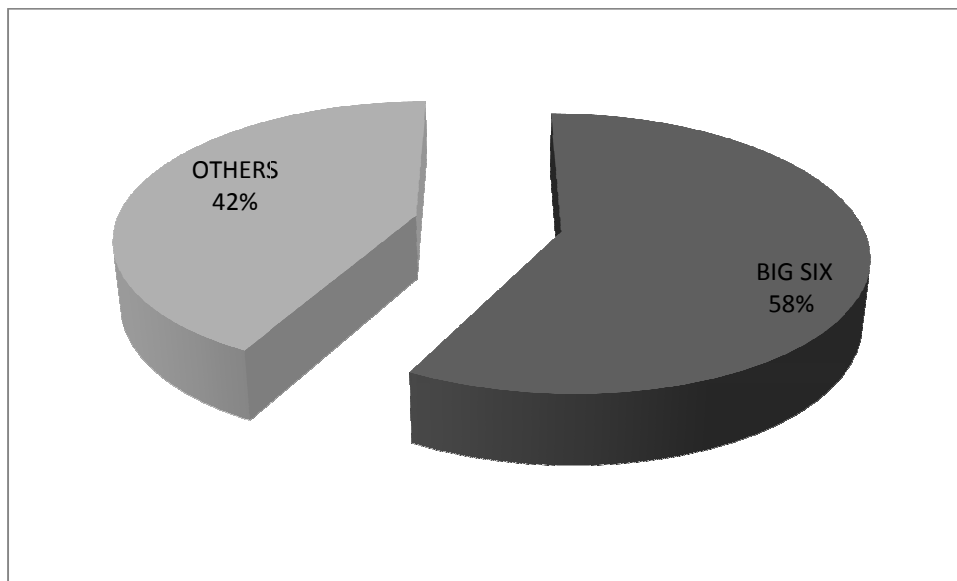
New Bridge Street Consultants (NBSC) is found to be the most dominant consultant in all years and throughout the pool sample, with a market share of around 22% of the recorded contracts. Towers Perrin, Deloitte, Kepler Associate, Mercer, and Watson Wyatt were found to command 11%, 7%, 6%, 5%, and 5% of the market, respectively. These findings are similar to those of Minhat (2008) who found that NBSC and Towers Perrin also commanded 18% and 15% of the market, respectively. However, Voulgaris et al. (2010) found similar results, but with significant differences in the proportion of each consultant's market share. For example, they found NBSC captured around 47% of the consulting contracts. This difference might reflect the huge demand for NBSC services among smaller firms since this study included around 204 firms listed in the FTSE Small Cap.

Figure 6.5: The big six remuneration consultants
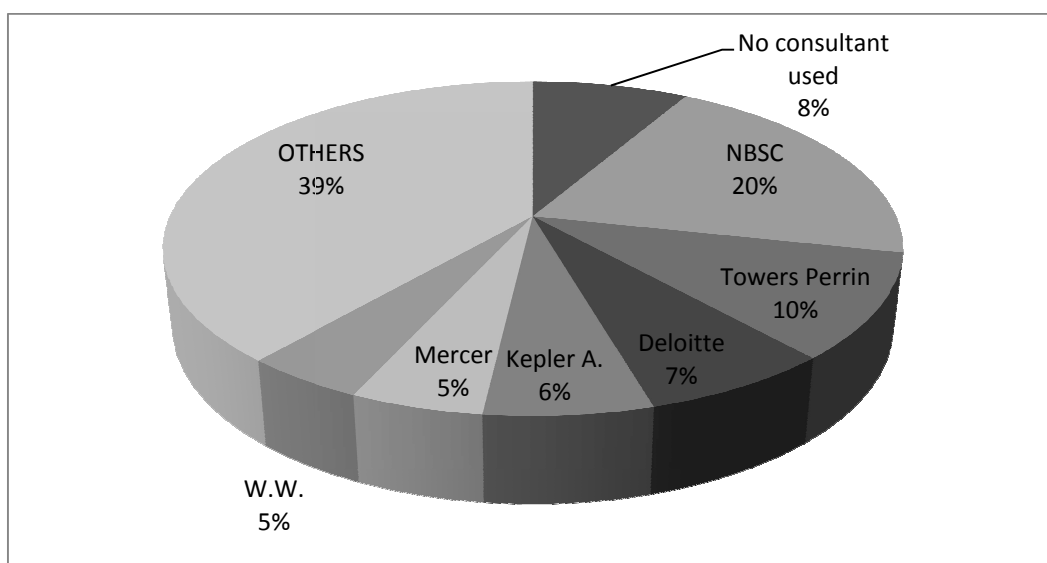
6.3 Correlation Coefficients

This section presents and discusses the Spearman rank correlation coefficients in terms of the remuneration consultants' variables. The correlation coefficients are examined for the presence of high collinearity among the independent variables of this empirical model. The term collinearity indicates that two independent variables have an almost perfect linear relationship. The importance of checking for such relationships is that the regression model estimates of the coefficients become unstable as the level of multicollinearity increases. Moreover, as presented in Table 6.8, an evaluation of the variance inflation factor (VIF) is made to check for the degree of multicollinearity in order to make more checks on multicollinearity in the model. According to Gujarati (2003) and Hair et al. (1995), it is predicted that this problem may threaten the analysis if the level of correlation between the independent variables exceeds 80%.

As shown in Table 6.8, the collinearity between all independent variables seems to be within the accepted limit (i.e. below 80%) and thus no problem of multicollinearity is detected in this empirical model according to this test. The highest correlation was found to be 49% between APPOINT and NOCON, implying that there is a high correlation between the number of consultants and the consultants who were appointed by the remuneration committee. However, this correlation is not predicted to harm the model, since it sits below 80%. Another high correlation was detected between MSHARE and B6 at the 48% level, which is reasonable, since the higher market share is mainly generated by the big six remuneration consultants. Also, although this correlation is relatively high, it is still acceptable.

The variance inflation factor (VIF), as shown in Table 6.9, has been made to check for the level of multicollinearity as a further check on the multicollinearity problem in the model. Hair et al. (1998) and O'Brien (2007) suggested that a VIF of more than 10 and a tolerance of less than 0.10 indicate a problem of multicollinearity. Consistent with the findings of the Spearman rank correlations, the values of VIF and tolerance are within the acceptable levels, and thus the problem of multicollinearity does not endanger the valid interpretation of regression coefficients of the predictors of this study's second model.

Table 6.8 Correlations Matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	PAY	1																
2	NCON	0.10*	1															
3	OTHER	0.10*	0.39*	1														
4	APPOINT	-0.02	-0.49*	-0.43*	1													
5	MSHARE	-0.14*	0.37*	-0.01	-0.22*	1												
6	SPEC	-0.10*	-0.29*	-0.32*	0.23*	0.31*	1											
7	USELEGAL	0.06	0.26*	0.18*	-0.15*	-0.13*	-0.34*	1										
8	SWITCH	-0.01	0.07*	0.06	-0.04	-0.06	-0.01	-0.01	1									
9	B6	0.09*	-0.11*	-0.14*	0.02	0.48*	0.24*	-0.21*	-0.07*	1								
10	CEOAGE	0.06*	0.05	0.04	-0.15*	-0.01	-0.08*	-0.02	-0.03	0.03	1							
11	CEOTEN	0.02	-0.15*	-0.01	0.02	-0.16*	-0.08*	0.19*	-0.07*	-0.13*	0.41*	1						
12	ROA	0.13*	0.01	-0.04	-0.01	-0.05	-0.01	-0.02	0.01	0.02	-0.01	0.03	1					
13	M2B	0.08*	0.01	-0.03	-0.02	0.03	0.05	0.01	0.01	0.05	-0.01	-0.01	0.05	1				
14	SIZE	0.46*	0.05	0.13*	-0.09*	-0.01	-0.07*	-0.04	-0.01	0.10*	0.09*	-0.04	-0.03	0.01	1			
15	LEV	-0.06	0.11*	0.09*	-0.05	0.03	-0.05	0.01	0.01	0.07*	-0.03	-0.15*	-0.05	-0.06	-0.01	1		
16	RET	-0.03	-0.05	-0.05	-0.02	-0.03	0.03	-0.02	-0.02	-0.04	0.03	0.02	0.08*	0.01	-0.03	-0.11*	1	
17	VOL	-0.16*	-0.03	0.01	-0.02	0.08*	0.10*	0.07	0.02	-0.07	-0.14*	0.01	-0.09*	-0.07*	-0.16*	-0.12*	0.06	1

* denote significance at the 0.05 level

200

Table 6.9 VIF Test Results		
Variable	VIF	1/VIF
NCON	2.38	0.41958
MSHARE	2.25	0.444581
APPOINT	1.62	0.61592
B6	1.53	0.651555
SPEC	1.5	0.66539
CEOTEN	1.47	0.682286
USELEGAL	1.39	0.72066
OTHER	1.34	0.747651
CEOAGE	1.32	0.759049
VOL	1.18	0.84939
LEV	1.12	0.892367
ROA	1.11	0.897951
TOTALASSETS	1.11	0.900009
RET	1.06	0.941343
SWITCH	1.05	0.955269
M2B	1.03	0.968778
Mean VIF	1.4	

6.4 Empirical Results and Analysis for the Second Model: Tests of Hypotheses (Multivariate Analysis)

6.4.1 The Use of Remuneration Consultants

Hypothesis 15 argues that the use of remuneration consultants is predicted to enhance the executive compensation governance by decreasing the proportion of fixed pay and increasing the proportion of performance related compensation. The findings, as presented in Table 6.10, give some support to this hypothesis. The association between the use of remuneration consultants and the CEOs' LTIPs is found to be positive and significant at the 5% level. However, the result of SALARY is also positive and significant at the 10% level, which partly rejects the hypothesis that the use of consultants reduces the proportion of fixed compensation. More interestingly, this variable is found to significantly decrease the CEOs' annual bonus at the 5% level, implying that firms that use consultants are more likely to incentivise their CEOs through long-term incentive components than short-term ones. Finally, consistent with previous studies, a positive and significant correlation at 5% was found between total compensation and the use of consultants (e.g. Voulgaris et al., 2010).

Although these results are in line with the argument that the use of consultants is assumed to increase the pay-performance relationship by awarding the CEO more equity-based compensation, they illustrate some features of CEO entrenchment through increasing the CEO salary. Thus, even though the findings provide some support for the optimal contracting perspective (which purports the use of consultants helps to increase the alignment of interests between managers and shareholders by using managerial compensation arrangements to incentivise managers to enhance the firms' value), they also provide some support for the managerial power approach which argues that the CEO uses his/her power over the consultant to influence the recommendation of a pay package that is more favourable to the CEO (i.e. more fixed and total compensation).

However, it might be difficult to interpret these findings under both perspectives. Theoretically, it is argued that in order to produce optimal compensation contracts that incentivise managers to increase the shareholders' value, the proportion of increase in incentive compensation should replace a similar proportion in terms of fixed components (Crystal, 1991). Therefore, the results would give strong support to the optimal contracting approach if the increase in total compensation was associated with an increase in long-term components and a decrease in fixed components (Voulgaris et al., 2010).

Table 6.10 The Second Model Results (Cluster Robust)

	SALARY		BONUS		TOTAL SHORT-TERM		LTIPs		ESOs		TOTAL LONG-TERM		TOTAL	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
USECON	0.1960*		-0.2988*		0.0823		1.0210**		0.4404		0.6625		0.2026**	
NCONS		0.0231		0.0695		0.0271		0.2856		0.0679		0.1241		0.0601***
OTHER		0.0766***		0.3396*		0.1072**		0.4497**		0.8853**		0.1797		0.1507**
APPOINT		0.1184*		-0.0353		0.1202*		0.2168		1.0810***		0.0426		0.1411*
SPEC		-0.1001*		0.1823		-0.0607		0.2339		-0.5633**		0.048		-0.0672
MSHARE		-0.3348*		-2.4940**		-1.0387***		3.0955**		-1.5003		-0.0412		-1.1061**
USELEGAL		0.0219		0.2722*		0.0959**		-0.4682		-1.163***		-0.229		0.0845
SWITCH		0.0144		0.074		0.0382		0.0467		-0.1526		0.1682		0.0681
B6		0.1258***		0.6017**		0.2133***		-0.0562		0.468		0.251		0.2679***
CEOAGE	0.0062***	0.0027	-0.0122	-0.0015	0.0015	0.0004	-0.0253	-0.0529*	0.0053	0.0592**	-0.0283*	-0.0356*	-0.0075**	-0.0091
CEOTEN	0.0081**	0.0084**	0.0045	0.0262*	0.0114**	0.0116**	-0.0203	0.0109	-0.0439	-0.0589	-0.0276	-0.0025	0.0143	0.0153
SIZE	0.2401***	0.2363***	0.4224***	0.3234**	0.3024***	0.2962***	0.5402***	0.5285***	0.4418***	0.4998***	0.6694***	0.7010***	0.4157***	0.4232***
ROA_{-1}	0.0059*	0.0062**	0.0475**	0.0282	0.0146***	0.0112***	0.0132	0.0332	0.0022	0.0158	0.0186*	0.0271	0.0157**	0.0155**
RET_{-1}	-0.1286***	-0.1382*	1.0779**	1.2496**	-0.0046	0.0118	-0.249	-0.3259	0.5132	0.9733	-0.1121	-0.2211**	-0.0717	-0.079
M2B	0.0001	0.0001	-0.0001	-0.0001	0.0001	0.0001	0.0005	-0.0004	-0.0022**	-0.0019**	0.0001	-0.001***	-0.0001	-0.0001
LEV	-0.2992***	-0.3846**	-1.097	-0.7207	-0.4670***	-0.5454***	0.8863*	-0.1155	-1.5426	-1.3157*	-0.1837	-0.8161	-0.615***	-0.772***
VOL	0.0001	0.0021***	-0.0161	-0.031	0.0007	0.0005	-0.0101**	-0.024	0.0117**	0.0203*	0.0055	-0.0007	0.0041	0.0034
_cons	3.8494***	4.0183***	2.9505*	3.0023	4.1759***	4.2491***	2.2076**	3.4961**	-1.3726	-5.6271**	2.2686**	2.4711**	4.3176***	4.2094***
Ind. Dum.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
R2	63%	69%	21%	26%	51%	59%	13%	17%	8%	19%	24%	28%	53%	61%

Legend: * p<.1; ** p<.05; *** p<.01

However, the results indicate that the increase that is generated in CEO equity-based components by the use of remuneration consultants is associated with a simultaneous increase in CEO salary. This may reflect some aspects of camouflaging excessive CEO compensation practices by consultants, rather than showing a tendency to produce an optimal compensation package. Thus, the results can be explained more in terms of the managerial power theory. This theory implies that remuneration consultants may tend to camouflage the increase in fixed and total executive compensation by increasing equity-based components in order to make this rise in executive compensation appear more rational for outsiders. Thereby facilitate the executive's excessive pay rise in a relatively disguised way and, consequently, protect their interests in the firm.

These results are consistent with those of Voulgaris et al. (2010) who found that the use of consultants positively and significantly increases the total and equity-based compensation of executives. However, unlike this study's results, they document a negative and significant correlation between executives' salaries and the presence of remuneration consultants, which is highly consistent with the optimal contracting perspective. These conflicting results might be due to the different sample characteristics that were used in their study. Goh and Gupta (2010) also identified a positive relationship between total compensation and the use of remuneration consultants. Conyon et al. (2009) found similar results for a sample of US firms. Nevertheless, they found this relationship to be non-significant in the UK.

These theoretical explanations support the argument that relying merely on the total CEO compensation in identifying the theoretical implications of the relationship between the use of consultants and CEO compensation can be a misleading or inappropriate approach. For example, greater support would be given to the managerial power theory if only the total CEO compensation was included in the study's analysis, however, including the structure of CEO compensation shows that this increase in total CEO compensation might also be generated by the long-term components, which opens the scope for other theoretical explanations.

6.4.2 The Use of Multiple Remuneration Consultants

Hypothesis 16 predicts that the use of multiple remuneration consultants will have a positive impact on fixed and total CEO compensation and a negative impact on the long-term components. Consistent with this hypothesis, the results show that CEO total compensation is an increasing function of the number of remuneration consultants. TOTAL is positively related to this variable at the 1% significance level, suggesting that CEOs enjoy greater levels of compensation as their firms hire multiple remuneration consultants. However, inconsistent with this hypothesis, the relationship

between other compensation variables (both fixed and performance-related components) and the number of consultants is statistically insignificant.

Therefore, the results of the compensation variables do not give us an indication of the source of this increase in the level of CEO compensation. Accordingly, the significant increase in CEO total compensation implies that the action of hiring multiple remuneration consultants might be interpreted in terms of the managerial power theory. That is, these findings may reflect the managerial power over remuneration consultants which leads to a competitive atmosphere between the firms' remuneration consultants as each tries to covet the CEO by recommending greater pay packages in order to remain in business and to protect the interests of their consulting firm (Bebchuk and Fried, 2005; Bender, 2008; Minhat, 2008).

Only one study has examined this relationship which is that of Minhat (2008). The author utilised a sample of UK firms in the period 2003-2006 to investigate the impact of the use of multiple remuneration consultants on total CEO compensation. However, unlike this study's findings, she found that the use of multiple remuneration consultants played no role in determining the level of CEO compensation. This conflicting result might be due to the different sample characteristics and control variables that were used in the study.

6.4.3 Conflict of Interests hypotheses

Three hypotheses were developed and three proxies were subsequently used in this study to investigate the impact of remuneration consultants with conflicts of interest in determining the level and the structure of CEO compensation. As discussed earlier, a conflict of interests may arise from (1) the other interests of the remuneration consultants in the firm that inherently comes from providing other services to the firm, (2) the managerial influence or power over the remuneration consultant's appointment, and (3) the remuneration consultant's desire to gain more financial benefits from the firm through the possibility of supplying other services in the future. The results and the theoretical explanations of each hypothesis are discussed individually below.

6.4.3.1 Providing Other Services

According to hypothesis 17, this study argues that a remuneration consultant who provides other services to the focal firm is assumed to have interests that are more aligned with those of the CEO, and thus are predicted to recommend a pay package that is more favourable to the CEO than to shareholders. The results provide strong support for this hypothesis through the positive and significant association between this variable and all CEO compensation variables, with the exception of total long-term compensation. The analysis shows that the variable of providing other services to the client firm is positively and significantly related to SALARY at the 1% level, TOTAL SHORT-TERM,

LTIPs, ESOs, and TOTAL at the 5% level, and BONUS at the 10% significance level. However, the coefficient of the total-long term compensation is found to be statistically non-significant.

Accordingly, these findings provide a great deal of support to the managerial power theory. That is, since the revenue which remuneration consultants gain from supplying other services to the firms is, in general, much greater than that of compensation services (Waxman, 2007; Murphy and Sandino, 2010), these consultants recognise that managerial power exists with regard to hiring or rehiring them to provide these other services. Consequently, it is the interests of the management that should be served in order to protect their business in the firm. Although the results do not support the second part of the main hypothesis, that remuneration consultants who provide other services to the firm recommend less equity-based compensation, it might be inappropriate to interpret this positive relationship between OTHER and long-term components under the alignment of interests' hypothesis or optimal contracting perspective. These positive correlations are more likely to reflect the camouflaging of excessive CEO compensation by awarding the CEO more equity-based compensation together with more fixed and total compensation.

Consistent with these findings, Murphy and Sandino (2010) found that firms in the US with remuneration consultants which provide other services in addition to remuneration consulting are "marginally" and positively associated with the level of CEO compensation. Also, Conyon et al. (2011) found some evidence for the managerial power theory when they noted that the level of CEO compensation is greater in UK firms with remuneration consultants which supply other services. However, they found this result is not robust. Conversely, Conyon et al. (2009) in the UK, and Armstrong et al. (2010) and Cadman et al. (2010) in the US, found that there was no relationship between the existence of remuneration consultants who also provide other services to the focal firms, and CEO compensation using different measures.

6.4.3.2 Remuneration Consultants' Appointment

Hypothesis 19 argues that a conflict of interests arises when remuneration consultants advise on compensation packages for people who have influence over their appointment or reappointment. This problem will be more obvious if the remuneration consultant is appointed by the management of the client firm. In contrast, firms with remuneration consultants who were appointed by the board of directors or by a remuneration committee are predicted to be more independent, and thus tend to recommend less CEO fixed and total compensation and more long-term compensation. Surprisingly, the results show that remuneration consultants who are appointed by remuneration committees significantly increase SALARY, TOTAL SHORT-TERM, and TOTAL at the 10% significance level. Also, as expected, this variable is also positively and significantly related to ESOs at the 1%

level. However, the correlation with BONUS, LTIPs, and TOTAL LONG-TERM is statistically non-significant.

According to the optimal contracting perspective, the action of appointing remuneration consultants by the board of directors or the remuneration committee is assumed to be an optimal ex-ante action to enhance the consultants' independence, as it reflects the committee's desire to reduce the entrenchment of the consultant. However, these findings open the scope for other theoretical implications that might explain these surprising findings. As discussed earlier, in line with the argument put forward by Wade et al. (1997), Bender (2008) and Conyon et al. (2011), powerful managers who have influence over both the internal governance structure and the remuneration consultants may tend to make their excessive compensation appear more rational for outsiders by legitimising the process of hiring the external advisor and thus the process of managerial pay-setting. That is, by influencing the remuneration committee's decision with respect to choosing the consultants and then reporting that the remuneration consultant has been appointed by the remuneration committee, this process will give social acceptability through an appearance of the level of the consultant's independence and thus give more room for both the managers and the consultants to start a gift-exchange relationship (i.e. excessive compensation for repeat business).

However, some support is given to the optimal contracting perspective through the positive and significant relationship between ESOs and firms with remuneration consultants that were appointed by the remuneration committee. In other words, affording the remuneration committee the responsibility to appoint its own consultants is found to be an optimal ex-ante action in setting managerial compensation that helps to align the interests of managers with shareholders by setting greater equity-based or performance-related compensation. Therefore, both the managerial power and optimal contracting theories are found to provide a convincing explanation to the same phenomenon, which supports Bebchuk and Fried's (2005) argument that both approaches may complement each other in interpreting executive compensation practices.

Murphy and Sandino (2010) examined similar empirical measures of remuneration consultant independence on the level of CEO compensation using a sample of US firms. They investigated whether the fact that the remuneration consultant works exclusively for the remuneration committee affects his recommendations. Consistent with these surprising results, they found that CEOs receive greater levels of compensation in firms with remuneration consultants who have been appointed by the remuneration committee. However, the researchers do not include the structure of CEO compensation to determine whether this variable affects the design of compensation.

6.4.3.3 Specialised vs. Non- Specialised Remuneration Consultants

According to hypothesis 18, this study argues that specialised remuneration consultants are assumed to have less incentive to serve the manager's needs than non-specialised consultants who might have more incentive to collude with and facilitate the manager's needs so as not to jeopardise the possibility of gaining "add-on work" in the future. Accordingly, this study hypothesises that firms that use non-specialised remuneration consultants to set levels and structures of compensation that are more favourable to the CEO than to the shareholders. Although the coefficient of CEO total compensation is found to be negative but non-significant, the results with regard to the CEO salary provide strong evidence for this argument.

The result shows that the use of specialised remuneration consultants has a negative and significant impact on the CEO salary at a 10% significance level. Theoretically, this component is the most favourable component for managers since it is not related to the firm's performance. Moreover, the findings illustrate that both CEO bonuses and LTIPs are positively but non-significantly associated with the use of specialised remuneration consultants. These results imply that specialised consultants, who according to this argument have less incentive to collude with management, play a strong role in changing the design of CEO compensation and recommending compensation packages that are more favourable to shareholders. Therefore, the use of specialised remuneration consultants that limit their offerings to compensation advice is found to play a strong role in reducing agency costs by decreasing the CEO salary and ESOs. In contrast, the results suggest that non-specialised consultants that offer a broad range of services are more likely to facilitate the extraction of excess compensation due to their desire to provide other services to the focal firm in the future.

Due to the shortcomings of the US disclosure requirements, a few previous studies in the US have used this measure to determine the independent status of US remuneration consultants (e.g. Cadman et al., 2010; Conyon et al., 2009; Armstrong et al., 2010). Similar to these findings with respect to the CEO total compensation, none of these studies have found a relationship between specialised remuneration consultants and the level of CEO compensation. These consistent findings imply that the impact of the use of specialised remuneration consultants is more likely to appear in the structure of executive compensation, rather than with regard to the level of executive compensation.

6.4.4 Remuneration Consultants' Market Share

According to the external auditors' reputation hypothesis, this study argues that remuneration consultants with a good reputation in the market, and thus a higher market share, are predicted to

have a strong incentive to protect and improve this reputation by enhancing the quality of their compensation services. Therefore, this research hypothesised that remuneration consultants with a greater market share are expected to improve compensation governance quality by recommending a CEO pay package that is in favour of shareholders rather than the CEO. The results of the analysis provide strong support for this hypothesis. That is, firms that hire remuneration consultants with a greater market share are found to pay their CEOs a lower level of compensation. More interestingly, the structure of CEO compensation is also found to be more favourable for shareholders in such situations.

The results indicate that the remuneration consultant's market share is negatively and significantly related to CEO salary, bonus and total short-term compensation at 10%, 5%, and 1% significance levels respectively. Moreover, as mentioned above, the association between the consultants' market share and total CEO compensation is negative and significant at the 5% level. On the other hand, this market share is found to have a positive and significant association with CEO LTIPs at the 5% level. These findings imply that the quality of compensation governance increases as the remuneration consultants' market share increases. Therefore, the results provide strong evidence that remuneration consultants with a greater market share are less likely to collude with the focal firms' management, or to engage in a gift-exchange relationship, since their involvement in any corruption or scandal might lead to damaging consequences for their future business as a result of a potential loss of reputation more than would be the case with other consultants who hold a lower market share.

Consistent with this interpretation, DeAngelo (1981) found that auditors with a greater market share have "more to lose" if they perform badly or are involved in bad financial reporting. However, Minhat (2008) obtained results that are inconsistent with this study's findings, instead finding that the consultants' market share has a positive and significant impact on the level of CEO compensation. Nevertheless, in measuring the consultants' market share, the researcher excluded the observations that contained multiple remuneration consultants, and included only the one consultant users. This might result in sample selection bias since several previous studies found that the use of multiple remuneration consultants is highly correlated with firm size and complexity (e.g. Voulgaris et al., 2010), and thus may explain these opposing findings. Moreover, as discussed earlier, these conflicting results might be due to the different sample characteristics and control variables that were used in her study.

6.4.5 The Use of Legal Advisors

The use of legal advisors has become a common practice on the part of UK firms. In practice, both remuneration and legal consultants are expected to help the remuneration committee members in in developing, implementing, and legitimising the process of CEO pay-setting, and of the compensation package itself. However, this study hypothesises that the use of legal advisors can be interpreted in terms of the managerial power theory and the excessive pay legitimisation hypothesis. This proposes that management may hire legal advisors, or influence the remuneration committee to do so, in order to make the pay-setting process appear more rational for outsiders, and thus legitimise the managers' excessive compensation.

The results of this study's analysis provide some evidence for this hypothesis. Even though this study finds that the use of legal advisors for executive compensation purposes has no significant impact on CEO salary, LTIPs, total long-term, and total compensation, the analysis shows that it is positively and significantly correlated with CEO bonuses and total short-term compensation at 10% and 5% significance levels respectively. Moreover, the results demonstrate that the use of remuneration legal advisors significantly decreases the CEOs' ESOs at the 1% level.

These findings imply that firms that use compensation legal advisors suffer more from agency problems and that shareholders of such firms are predicted to incur extra agency costs through not only the cost of hiring external legal advisors, but also by the advisors who are hired setting inappropriate CEO compensation that decreases the pay-performance relationship and thus negatively affects the CEOs' incentive to maximise shareholders value. Accordingly, these findings contrast with the interpretation of the alignment of interests hypothesis of agency theory and the optimal contracting perspective in terms of the use of legal advisors. These perspectives assume that this action is expected to help to increase the validity and the creditability of the managerial pay-setting process and thus enhance the quality of executive compensation governance, mitigate agency problems and increase the alignment of the interests of managers with shareholders by optimising the executive pay arrangements.

6.4.6 Remuneration Consultants' Turnover

In line with the managerial power perspective, this study argues that the action of switching remuneration consultants can be interpreted under the opinion-shopping hypothesis, when management replace the firm's remuneration consultant in order to receive a more generous compensation package from the recommendation of the new consultant. Therefore, this study hypothesises that switching remuneration consultants is predicted to result in a CEO compensation

package that is more favourable for the CEO than for the shareholders (i.e. more fixed and total compensation and less equity-based compensation).

The results provide no evidence for this argument since it is found that switching remuneration consultants has neither a significant impact on the level nor the structure of CEO compensation. These findings are inconsistent with those of Goh and Gupta (2010) who found strong evidence for the managerial power or rent-extraction hypothesis. They noted that CEOs of firms that change their 'main' remuneration consultant received higher salaries and less equity-based compensation, implying that the action of switching the remuneration consultant can be interpreted under the managerial opinion-shopping hypothesis. However, these different findings may be due to the different measure that was used in the Goh and Gupta study. The researchers detected the switch of the main consultant whilst this study measured this variable as any change that happened during the fiscal year with regard to all firms' consultants, since I could not define the main consultant as was used in the Goh and Gupta study.

6.5 Further Analyses and Robustness Checks

6.5.1 Alternative Measurement of LTIPs and ESOs
Long-Term Incentive Plans (LTIPs)

As discussed in the methodology chapter, Long-Term Incentive Plans (LTIPs) in the United Kingdom are typically linked to measures of firm performance and usually conditional on an increase in Earnings per Share (EPS) and/or Total Shareholder Return (TSR). Some researchers argue that firms design LTIPs and set performance conditions equal to their performance expectations, and thus measure LTIPs using the face value of the restricted performance shares at the grant date (e.g. Core et al., 1999; Eichholtz et al., 2008). However, others take these performance conditions into account by discounting this component in terms of the possibility of meeting the pre-award performance criteria. Researchers who follow this approach evaluate this element and discount it by 20% in order to reflect the firm's performance conditions (e.g. Conyon and Murphy, 2000; Conyon et al., 2001; Stathopoulos et al., 2005; Ozkan, 2007).

Therefore, according to the latter mainstream, this study will take into account LTIPs' performance conditions and re-measure this component to reflect the firms' performance contingent. Although the "20% discount" is neither methodologically nor theoretically justified, this percentage will be used in order to facilitate the comparison with previous empirical evidence and to check the robustness of my results.

Table 6.11 presents the results of the relationship between my remuneration consultants' variables and CEO LTIPs, discounting by 20% for performance contingent. Also, the table illustrates the directional signs and the significance levels of the main analysis which uses the face value of LTIPs to facilitate the comparison between the two measures. Mainly, the analysis shows that the findings of this sensitivity analysis are relatively consistent with the primary analysis. Moreover, the test demonstrates the same directions for all variables, and shows a slight difference or effect on the test values. With the exception of the variable NCONS, all independent variables were found to have the same level of relationship to the second measure of LTIPs. However, some changes in the significance levels are noted here. That is, the significance levels of both USECON and OTHER drop from the 5% to the 10% level. Also, while the coefficient of NCONS is statistically non-significant in the first measure, it is found to be positive and significant at the 5% level under the second measure. Therefore, with the exception of the latter results, the findings with regard to CEO LTIPs are found to be strongly and satisfactorily robust to different measures of Long-Term Incentive Plans.

Table 6.11 Results of the Alternative Measures (Cluster Robust)				
Alternative measures for LTIPs and ESOs				
Variables	LTIPs		ESOs	
	Main res.	*Coef.*	*Main res.*	*Coef.*
USECON	(+)**	0.1407*		0.181
NCONS		0.0615**		0.016
OTHER	(+)**	0.0231*	(+)**	0.1137
APPOINT		0.0491	(+)***	0.0014*
SPEC		0.0565	(-)**	-0.0216
MSHARE	(+)**	0.7346**	(-)	-0.5683
USELEGAL		0.0032	(-)***	-0.0088*
SWITCH		0.0118	(-)	-0.1821
B6		0.1649***		0.0798
CEOAGE	(-)*	-0.0096*	(+)**	0.0028
CEOTEN		0.0085	(-)	-0.0064
TOTASSTs	(+)***	0.2172***	(+)***	0.1922***
ROA_{-1}		0.0094***		0.0103**
RET_{-1}	(-)	-0.0741		0.0133
M2B		0.0001	(-)**	-0.0001
LEV	(-)	-0.3300**	(-)*	-0.4075*
VOL		0.0049**	(+)*	0.0081
Industry Dummies	YES	YES	YES	YES
_cons	3.4961**	1.1559**	-5.6271**	1.1648

Legend: * p<.1; ** p<.05; *** p<.01

Executive Stock Options (ESOs)

Measurements of executive stock options are more sophisticated than that of other components as the evaluation of this component requires a combination of inputs to calculate the proposed pricing models. Additionally, every evaluation is predicted to result in different outcomes, which may affect the interpretations of the results (Core et al., 1999). A commonly used pricing methodology that has

been utilised by a large number of studies is the well-known Black-Scholes-Merton (1973) (e.g. Brick et al., 2006; Ozkan, 2007a; Fahlenbrach, 2009; Conyon et al., 2009). It is also used in this study to measure the ESOs in the primary analysis. On the other hand, another direction taken by researchers has been to employ a more straightforward method and evaluate stock options at 25% of the exercise price. Scholars applying this pricing methodology assume that other option pricing models (e.g. Black-Scholes and the binomial method) typically lead to results in this range, i.e. 25% (e.g. Lambert et al., 1993; Henderson and Frederickson, 1996; Core et al., 1999). Therefore, as an alternative analytical method, this study employs this technique and measures the ESOs at 25% of the exercise price.

As shown in Table 6.11 the results of this alternative measurement seem somewhat consistent with those of the primary test. With the exception of the variables OTHER and SPEC, which become non-significant using this measurement, all other independent variables have the same directions and relationships with ESOs at 25% of the exercise price. Moreover, the significance levels of the variables APPOINT and USELEGAL, drop from 1% to 10% respectively. This lack of results under the second pricing methodology implies that the Black-Scholes formula may provide a better representation for executive stock options than other pricing models.

6.5.2 Different Estimation Methods

6.5.2.1 Parametric OLS Regression

As discussed extensively in the methodology chapter and according to the nature of the data, a non-parametric test has been used. The parametric assumptions were investigated and the clustering robust estimation was methodologically and statistically found to be more suitable for analysing this study's data. However, some scholars question the need to meet the assumptions of the OLS regression before adopting parametric analysis. That is, a number of studies have evaluated the effect of non-normally distributed and unequal variances samples on the outcomes of parametric tests and have noted non-significant effects in terms of these conditions on these studies' outcomes.

Selecting parametric tests and choosing to do nothing with these statistical restrictions is common practice among researchers. For example, Glass et al. (1972) found that many parametric techniques are not actually affected if the parametric assumptions are violated. In line with this argument, Keselman et al. (1998) in a study of a large sample of articles from 17 different journals suggested that authors rarely take the parametric assumptions into consideration and usually choose analytical techniques that are assumed to violate these assumptions. Breckler (1990) also notes that only 20% of studies in his sample of 72 studies referred to the condition of normality and only around 10% of them examined whether or not this condition had been met.

Consistently, almost all the studies that have investigated issues that relate to the role and effect of remuneration consultants on CEO compensation have employed OLS regressions to analyse this relationship (Minhat, 2008; Conyon et al., 2009; Murphy and Sandino, 2010; Cadman et al., 2010; Armstrong et al., 2010; Voulgaris et al., 2010; Goh and Gupta, 2010; Conyon et al., 2011). However, considerable attention has been paid by these studies to the normality assumption, since all of them have used the natural logarithm of compensation and firm size variables to artificially make them normally distributed. Therefore, this study employs the pooled OLS regression to examine the effect of the violation of parametric techniques on the studies' findings and to check for the robustness and the sensitivity of these results using different estimation methods.

Table 6.12 presents the findings of the relationships between the remuneration consultants' variables and the CEO compensation variables under the pooled OLS regression. The table shows that the OLS estimation results are in agreement with the primary test results. Some of the statistics of the correlations have either more or less significant levels, but the directions and the majority of significance relationships remain the same. Consistent with the primary analysis results, USECON is found to be positively and significantly related to total CEO compensation at the 5% significance level. Also, it has a positive and significant relationship with both SALARY and LTIPs at the 1% significance level, which is greater than the main tests' results which were 10% and 5% respectively. Other slight differences have been detected with regard to BONUS and TOTAL LONG-TERM. While BONUS was negatively and significantly related to USECON at the 10% level under the cluster robust regression, this correlation is non-significant according to the OLS estimation. Additionally, TOTAL LONG-TERM was found to be positively and significantly associated with this variable (p<0.5), implying that the use of remuneration consultants strongly increased pay-performance sensitivity, whereas this association was non-significant in the main analysis.

NCONS is also found to have the same relationship with this study's CEO compensation variables. It still has non-significant correlations with SALARY, BONUS, TOTAL SHORT-TERM, ESOs, and TOTAL LONG-TERM under this estimation method. Moreover, whilst the association between NOCONS and TOTAL remains positive and significant, a lower level of significance is observed (p<0.10). However, the relationship between this variable and LTIPs becomes significant at the 10% level, whilst it was non-significant under the main analysis. Consistently, USELEGAL has similar findings to the main tests' results with respect to SALARY, LTIPs, ESOs, TOTAL LONG-TERM, TOTAL. Nevertheless, the relationship with BONUS and TOTAL SHORT-TERM became non-significant under this estimation.

Table 6.12 Pooled OLS Regression

	SALARY (1)	SALARY (2)	BONUS (1)	BONUS (2)	TOTAL SHORT-TERM (1)	TOTAL SHORT-TERM (2)	LTIPs (1)	LTIPs (2)	ESOs (1)	ESOs (2)	TOTAL LONG-TERM (1)	TOTAL LONG-TERM (2)	TOTAL (1)	TOTAL (2)
USECON	0.1960***		-0.2988		0.0823		1.0210***		0.4404		0.6625**		0.2026**	
NCONS		0.0231		0.0695		0.0271		0.2856*		0.0679		0.1241		0.0601*
OTHER		0.0766***		0.3396**		0.1072**		0.4497*		0.8853***		0.1797		0.1507**
APPOINT		0.1184***		-0.0353		0.1202**		0.2168		1.0810***		0.0426		0.1411**
SPEC		-0.1001***		0.1823		-0.0607		0.2339		-0.5633*		0.048		-0.0672
MSHARE		-0.3348*		-2.4940**		-1.0387***		3.0955*		-1.5003		-0.0412		-1.106***
USELEGAL		0.0219		0.2722		0.0959		-0.4682		-1.163***		-0.229		0.0845
SWITCH		0.0144		0.074		0.0382		0.0467		-0.1526		0.1682		0.0681
B6	0.1258***	0.1258***	0.6017***	0.6017***	0.2133***	0.2133***	-0.0562	-0.0562	0.468	0.468	0.251	0.251	0.2679***	0.2679***
CEOAGE	0.0062***	0.0027	-0.0122	-0.0015	0.0015	0.0004	-0.0253	-0.0529**	0.0053	0.0592***	-0.0283**	-0.0356**	-0.0075**	-0.0091*
CEOTEN	0.0081***	0.0084***	0.0045	0.0262*	0.0114***	0.0116***	-0.0203	0.0109	-0.0439**	-0.0589**	-0.0276*	-0.0025	0.0143***	0.0153***
SIZE	0.2401***	0.2363***	0.4224***	0.3234***	0.3024***	0.2962***	0.5402***	0.5285***	0.4418***	0.4998***	0.6694***	0.7010***	0.4157***	0.4232***
ROA_{-1}	0.0059***	0.0062***	0.0475***	0.0282***	0.0146***	0.0112***	0.0132	0.0332*	0.0022	0.0158	0.0186**	0.0271**	0.0157***	0.0155***
RET_{-1}	-0.1286***	-0.1382***	1.0779***	1.2496***	-0.0046	0.0118	-0.249	-0.3259	0.5132**	0.9733***	-0.1121	-0.2211	-0.0717	-0.079
M2B	0.0001	0.0001	-0.0001	-0.0001	0.0001	0.0001	0.0005	-0.0004	-0.0022*	-0.0019	0.0001	-0.0007	-0.0001	-0.0001
LEV	-0.2992***	-0.3846***	-1.0970***	-0.7207	-0.4670***	-0.5454***	0.8863	-0.1155	-1.5426***	-1.3157*	-0.1837	-0.8161	-0.615***	-0.772***
VOL	0.0001	0.0021	-0.0161**	-0.0310***	0.0007	0.0005	-0.0101	-0.0240*	0.0117	0.0203	0.0055	-0.0007	0.0041	0.0034
_cons	3.8494***	4.0183***	2.9505***	3.0023***	4.1759***	4.2491***	2.2076*	3.4961**	-1.3726	-5.627***	2.2686**	2.4711**	4.3176***	4.2094***
Ind. Dum.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
R2	62%	68%	20%	23%	50%	57%	13%	14%	8%	16%	24%	26%	53%	60%

Legend: * p<.1; ** p<.05; *** p<.01

Finally, other independent variables, i.e. OTHER, APPOINT, SPEC, MSHARE and SWITCH, have identical correlations with the compensation variables to those of the primary analysis, with only slight differences in the significance levels. Accordingly, the results of the pooled OLS regression are highly consistent with those of the primary analysis, and thus using either parametric or non-parametric techniques does not appear to unduly affect this study's results. This adds further support for questioning the need to satisfy the parametric assumptions before adopting parametric tests.

6.5.2.2 Huber-White's Sandwich Estimation

The Huber-White variance estimator is one of the most well-known and widely used robust estimation methods, which are consistent and efficient when it comes to administering heteroscedastic residuals and producing robust standard errors that can correct for some violations of the identity of variances. This technique is known as the Huber-White sandwich estimation (Huber, 1967; White, 1980). This estimation utilises the finite-sample correction of $n/(n-k)$ to calculate the residual square of the observation in order to estimate the residual's variance. However, even though there is an alternative stricter bias correction term $(1/((1-h)^2)$ that modifies the Huber-White's variance estimators, this study employs the Huber-White's robust estimation so as to avoid more complications. Therefore, in order to check for the robustness and the sensitivity of the findings to different estimation methods, this estimation method is used as a further means of analysis.

Table 6.13 presents the findings of the analysis under the Huber-White robust estimation. All the findings of the first, sixth and seventh models (i.e. SALARY, ESOs, and TOTAL) confirm all the coefficients of the primary analysis, with slight differences in the significance levels. For example, the significance levels of the impact of USECON, APPOINT, and SPEC on SALARY, decreased from the 1% to the 10% level. On the other hand, the relationships between NCONS, MSHARE and TOTAL, drop from 1% to 10% and 5% significance levels, respectively. These highly consistent findings with respect to the CEO salary, ESOs and total compensation, imply that the relationships between the remuneration consultants' attributes and the CEOs' fixed, stock option, and level of compensation that are identified in this empirical study are robust and reliable.

However, with respect to other models that have investigated the structure of CEO compensation, some minor changes can be detected. For instance, in terms of the total CEO short-term compensation, the impact of the use of a legal advisor is found to be non-significant, whereas it was positive and significant in terms of the primary analysis. However, the implications of the findings of this variable on CEO compensation are not affected by these changes, since the effect on ESOs

Table 6.13 Huber-White's Sandwich Estimation

	SALARY		BONUS		TOTAL SHORT-TERM		LTIPs		ESOs		TOTAL LONG-TERM		TOTAL	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
USECON	0.1960***		-0.2988		0.0823		1.0210**		0.4404		0.6625**		0.2026**	
NCONS		0.0231		0.0695		0.0271		0.2856*		0.0679		0.1241		0.0601*
OTHER		0.0766***		0.3396*		0.1072**		0.4497		0.8853***		0.1797		0.1507***
APPOINT		0.1184***		-0.0353		0.1202***		0.2168		1.0810***		0.0426		0.1411**
SPEC		-0.1001***		0.1823		-0.0607		0.2339		-0.5633*		0.048		-0.0672
MSHARE		-0.3348*		-2.4940*		-1.0387***		3.0955*		-1.5003		-0.0412		-1.106***
USELEGAL		0.0219		0.2722		0.0959		-0.4682		-1.163***		-0.229		0.0845
SWITCH		0.0144		0.074		0.0382		0.0467		-0.1526		0.1682		0.0681
B6		0.1258***		0.6017***		0.2133***		-0.0562		0.468		0.251		0.2679***
CEOAGE	0.0062***	0.0027	-0.0122	-0.0015	0.0015	0.0004	-0.0253	-0.0529**	0.0053	0.0592***	-0.0283*	-0.0356*	-0.0075*	-0.0091*
CEOTEN	0.0081***	0.0084***	0.0045	0.0262*	0.0114**	0.0116***	-0.0203	0.0109	-0.044***	-0.058***	-0.0276	-0.0025	0.0143***	0.0153**
SIZE	0.2401***	0.2363***	0.4224***	0.3234***	0.3024***	0.2962***	0.5402***	0.5285***	0.4418***	0.4998***	0.6694***	0.7010***	0.4157***	0.4232***
ROA_{-1}	0.0059***	0.0062***	0.0475***	0.0282**	0.0146***	0.0112***	0.0132	0.0332*	0.0022	0.0158	0.0186*	0.0271	0.0157***	0.0155***
RET_{-1}	-0.1286***	-0.1382***	1.0779***	1.2496***	-0.0046	0.0118	-0.249	-0.3259	0.5132**	0.9733***	-0.1121	-0.2211	-0.0717	-0.079
M2B	0.0001	0.0001	-0.0001	-0.0001	0.0001	0.0001	0.0005	-0.0004	-0.0022	-0.0019	0.0001	-0.001	-0.0001	-0.0001
LEV	-0.2992***	-0.3846***	-1.097***	-0.7207*	-0.4670***	-0.5454***	0.8863	-0.1155	-1.5426**	-1.3157	-0.1837	-0.8161	-0.615***	-0.772***
VOL	0.0001	0.0021	-0.0161*	-0.031***	0.0007	0.0005	-0.0101	-0.024	0.0117	0.0203	0.0055	-0.0007	0.0041	0.0034
_cons	3.8494***	4.0183***	2.9505***	3.0023***	4.1759***	4.2491***	2.2076*	3.4961**	-1.3726	-5.6271**	2.2686***	2.4711**	4.3176***	4.2094***
Ind. Dum.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
R2	63%	69%	21%	26%	51%	59%	13%	17%	8%	19%	24%	28%	53%	61%

Legend: * p<.1; ** p<.05; *** p<.01

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remains negative and significant (p<0.01), which supports the interpretation of the main findings in terms of the managerial power theory. Moreover, some of the findings of the sensitivity test confirm the implications of the primary analysis's results. For example, while the main test found some evidence for the positive role of the use of remuneration consultants in enhancing the alignment of managers' interests with shareholders' by significantly increasing the CEO LTIPs, these implications are confirmed by the coefficient of the total CEO long-term compensation, which becomes positive and significant at the 5% significance level under this estimation.

6.5.2.3 Random Effects and Fixed Effects Estimations

As further analyses, this study employs two additional estimations that are predicted to have advantages in controlling for the data problems in order to check the robustness and the sensitivity of the results; namely, random effects (GLS panel data regression) and fixed effects (OLS panel data regression). That is, a GLS regression has the additional advantages that it controls for the existence of autocorrelation and heteroscedasticity, along with the correction for the omitted variable bias (Habbash et al., 2010). Additionally, it is suggested that this estimation method strengthens the reliability of the coefficient estimates as it assumes that regression parameters do not differ between various cross-sectional units and do not change over time (Greene, 2007).

Contrastingly, the fixed effect model is an approach that estimates the fixed effect of predictors on the dependent variables by controlling for the constant variations coming from omitted variables and unobserved heterogeneity between groups over time. The assumption of this technique is that the individual specific effect is related to the regressors. The fixed effect approach works by removing much of the error variance that arises from distortions due to the individual differences between groups that come from the omitted variables or the unobserved heterogeneity that are correlated with the regressors. The results of the two estimation methods are presented in tables 6.14 and 6.15.

Generally, the findings of these estimations are greatly consistent with those of the primary analysis and other sensitivity analyses (i.e. pooled OLS regression and Huber-White's estimation). More importantly, whilst the correlation between the use of legal advisors and BONUS was not confirmed by other sensitivity analyses, the findings of the fixed effects estimation did confirm this relationship. Similarly, the findings of the relationship with total CEO short-term compensation were supported by the GLS findings.

Table 6.14 GLS Panel Data Estimations

	SALARY		BONUS		TOTAL SHORT-TERM		LTIPs		ESOs		TOTAL LONG-TERM		TOTAL	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
USECON	0.1960***		-0.2988		0.0823		1.0210***		0.4404		0.6625**		0.2026**	
NCONS		0.0231		0.0695		0.0271		0.2856**		0.0679		0.1241		0.0601*
OTHER		0.0766***		0.3396*		0.1072**		0.4497*		0.8853***		0.1797		0.1507***
APPOINT		0.1184***		-0.0353		0.1202***		0.2168		1.0810***		0.0426		0.1411***
SPEC		-0.1001***		0.1823		-0.0607		0.2339		-0.5633*		0.048		-0.0672
MSHARE		-0.3348*		-2.4940*		-1.0387***		3.0955**		-1.5003		-0.0412		-1.106***
USELEGAL		0.0219		0.2722		0.0959*		-0.4682		-1.163***		-0.229		0.0845
SWITCH		0.0144		0.074		0.0382		0.0467		-0.1526		0.1682		0.0681
B6		0.1258***		0.6017***		0.2133***		-0.0562		0.468		0.251		0.2679***
CEOAGE	0.0062***	0.0027	-0.0122	-0.0015	0.0823	0.0004	1.0210***	-0.0529**	0.4404	0.0592***	0.6625**	-0.0356*	0.2026**	-0.0091*
CEOTEN	0.0081***	0.0084***	0.0045	0.0262*	0.0015	0.0016***	-0.0253	0.0109	0.0053	-0.059***	-0.0283*	-0.0025	-0.0075*	0.0153**
SIZE	0.24401***	0.2363***	0.4224***	0.3234***	0.0114***	0.2962***	-0.0203	0.5285***	-0.0439***	0.4998***	-0.0276	0.7010***	0.0143***	0.4232***
ROA_{-1}	0.0059***	0.0062***	0.0475***	0.0282***	0.3024***	0.0112***	0.5402***	0.0332**	0.4418***	0.0158	0.6694***	0.0271*	0.4157***	0.0155***
RET_{-1}	-0.1286***	-0.1382***	1.0779***	1.2496***	0.0146***	0.0118	0.0132	-0.3259	0.0022	0.9733***	0.0186*	-0.2211	0.0157***	-0.079
M2B	0	0	-0.0001	-0.0001	-0.0046	0.0001	-0.249	-0.0004	0.5132**	-0.002***	-0.1121	-0.001***	-0.0717	-0.0001
LEV	-0.2992***	-0.3846***	-1.0970***	-0.7207*	0.0001	-0.5454***	0.0005	-0.1155	-0.0022***	-1.3157	0.0001	-0.8161	0	-0.772***
VOL	0	0.0021	-0.0161*	-0.0310***	-0.4670***	0.0005	0.8863	-0.024	-1.5426**	0.0203	-0.1837	-0.0007	-0.615***	0.0034
_cons	3.8494***	4.0183***	2.9505***	3.0023***	0.0007	4.2491***	-0.0101	3.4961**	0.0117	-5.627***	0.0055	2.4711**	0.0041	4.2094***
Ind. Dum.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
R2	63%	69%	22%	26%	52%	59%	14%	17%	9%	19%	24%	29%	53%	61%

Legend: * p<.1; ** p<.05; *** p<.01

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Table 6.15 Fixed Effects Estimations

	SALARY (1)	SALARY (2)	BONUS (1)	BONUS (2)	TOTAL SHORT-TERM (1)	TOTAL SHORT-TERM (2)	LTIPs (1)	LTIPs (2)	ESOs (1)	ESOs (2)	TOTAL LONG-TERM (1)	TOTAL LONG-TERM (2)	TOTAL (1)	TOTAL (2)
USECON	0.1924*		-0.3335**		0.072		0.9649**		0.5188		0.6434		0.1896**	
NCONS		0.0243		0.0883		0.0321		0.2843		0.0601		0.1278		0.0660***
OTHER		0.0808***		0.3433*		0.1128***		0.4765**		0.8415**		0.189		0.1583**
APPOINT		0.1177*		-0.0366		0.1194*		0.2078		1.1139***		0.0426		0.1409*
SPEC		-0.1175**		0.1473		-0.0874		0.1211		-0.3262**		0.014		-0.1
MSHARE		-0.3507*		-2.7103**		-1.0989***		3.1180**		-1.4787		-0.0886		-1.1794**
USELEGAL		0.0095		0.2341*		0.074		-0.5399		-1.0086**		-0.2538		0.0578
SWITCH		-0.0102		0.0409		0.0014		-0.0996		0.0696		0.1166		0.019
B6		0.1244***		0.6194**		0.2153***		-0.0772		0.4984		0.2484		0.2696***
CEOAGE	0.0064***	0.0031*	-0.0106	0.0011	0.002	0.0015	0.9649**	-0.0506*	0.5188	0.0530*	0.6434	-0.0346*	0.1896**	-0.0079
CEOTEN	0.0076**	0.0078**	0.0013	0.0250*	0.0102**	0.0107**	-0.0232	0.0069	0.0018	-0.0505	-0.0275*	-0.0037	-0.0070**	0.0142
SIZE	0.2388***	0.2338***	0.4128***	0.3158**	0.2990***	0.2919***	-0.0259	0.5139***	-0.0321	0.5331***	-0.0302	0.6959***	0.0129	0.4180***
ROA_{-1}	0.0058*	0.0054**	0.0449*	0.0233	0.0140***	0.0093**	0.5246***	0.0307	0.4742***	0.0224	0.6626***	0.0256	0.4118***	0.0132*
RET_{-1}	-0.0936	-0.0878	1.3088*	1.4610*	0.0826	0.1029	0.0094	0.0347	0.0061	-0.1585	0.0175	-0.1367	0.0149**	0.016
M2B	0	0	-0.0003	-0.0001	0	0.0001	0.0345	-0.0007	-0.3901	-0.0013***	0.0536	-0.001***	0.0104	-0.0001**
LEV	-0.3108***	-0.3984***	-1.1634	-0.7569	-0.4927***	-0.5684***	0	-0.1982	-0.0014**	-1.1442*	-0.0001	-0.8448	-0.0001	-0.801***
VOL	0.0001	0.0026***	-0.0148	-0.0287	0.001	0.0016	0.7559	-0.0216	-1.2964*	0.016	-0.2384	0.0005	-0.6463***	0.0049
_cons	3.8554***	4.0211***	2.9593*	2.926	4.1854***	4.2375***	-0.0082**	3.5624***	0.0109*	-5.7123***	0.0058	2.4734**	0.0045	4.1973***
Ind. Dum.	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
R2	63%	69%	22%	26%	51%	59%	14%	16%	7%	17%	24%	29%	53%	61%

Legend: * $p<.1$; ** $p<.05$; *** $p<.01$

In conclusion, the cluster robust regression approach is used as the primary estimation for analysing the data of this empirical model. However, in order to check for robustness and sensitivity in terms of the main analysis' findings, the pooled OLS regression, the Huber-White's sandwich estimation, random effect and fixed effect estimations are utilised. As shown in Tables B.1 to B.7 in the appendices, the findings of these further analyses illustrate a high level of consistency with those of the primary analysis. That is, each significant relationship that was found in the primary analysis was confirmed by at least one further analysis.

6.5.3 Remuneration Consultants' Turnover and the Subsequent CEO Compensation

Generally, with the exception of the remuneration consultants' turnover, all other remuneration consultants' attributes are found to have effects on the CEO compensation. The consultants' turnover is found to play no role in determining either the level or the structure of CEO compensation. This variable was investigated in the primary analysis by examining the impact of switching the consultants ($SWITCH_{t1}$) on the CEO compensation in the fiscal year ($COMP_{t1}$).

However, it is arguable that the impact of the remuneration consultants' turnover on the level of CEO compensation may be more obvious in the following year since the newly hired consultants may need more time and information about the firm strategies to start affecting the level and/or the structure of CEO compensation (Conyon et al., 2009), which might explain this lack of results. Therefore, in order to check this methodological argument and to take advantage of this study's data which covers five years, the impact of the lagged remuneration consultants' turnover ($SWITCH_{t-1}$) on the subsequent CEO compensation ($COMP_{t1}$) will be examined in this study through using further analysis.

Table 6.16 illustrates the findings of the analysis using the lagged consultants' turnover as a measure. As hypothesised in this section, this research found that the impact of the remuneration consultants' turnover to be more obvious with regard to the subsequent CEO compensation. Although the analysis shows that this variable has no significant effect on the structure of CEO compensation, with the exception of ESOs, it was found to have a significant impact in determining the level of total CEO compensation. The results indicate that the CEO receives greater levels of compensation ($p<0.10$) if the remuneration consultants' were switched in the previous year. Moreover, the correlation between the remuneration consultants' turnover and the CEO stock options is negative and significant at the 10% significance level.

These findings imply that CEOs of firms which replaced their remuneration consultants received lower performance-related compensation (i.e. ESOs) and higher levels of total compensation in the

Table 6.16 The Results of the Remuneration Consultants Turnover and Subsequent CEO Compensation (Cluster Robust)

	SALARY		BONUS		TOTAL SHORT-TERM		LTIPs		ESOs		TOTAL LONG-TERM		TOTAL	
	Coef.	z-value	Coef.	z-value	Coef.	z-value	Coef.	z-value	Coef.	z-value	Coef.	z-value	Coef.	z-value
NCONS	0.0299	1.62	0.0189	0.15	0.0214	0.71	0.3922	2.23	0.1407	0.77	0.1932	1.47	0.0603	1.5**
OTHER	0.0745	2.54***	0.2907*	1.48*	0.1086	2.28**	0.4757	1.7*	0.8536	2.94***	0.2966	1.42	0.1796	2.82***
APPOINT	0.1567	4.85*	-0.0658	-0.3	0.1506	2.87*	0.1101	0.36	1.0594	3.31***	-0.0446	-0.19	0.1680	2.39*
SPEC	-0.1246	-3.5*	0.1741	0.73	-0.0897	-1.55	0.1885	0.55	-0.3459	-0.98**	0.0469	0.18	-0.1306	-1.69*
MSHARE	-0.3288	-1.68*	-1.7852**	-1.36**	-0.9586	-3.02**	2.871	1.54**	-0.7721	-0.4	-0.0933	-0.07	-0.9408	-2.21**
USELEGAL	0.0171	0.43	0.2572*	0.98*	0.0882	1.38*	-0.9234	-2.47	-1.269	-3.27***	-0.5421	-1.94	0.0183	0.21
SWITCH_−1	-0.0208	-0.52	0.3323	1.25	0.1057	1.64	0.1804	0.48	-0.7047	-1.79*	0.1543	0.54	0.1428	1.65*
B6	0.1219	3.69***	0.5250**	2.37**	0.2158	4.02***	0.1574	0.5	0.2659	0.81	0.3509	1.49	0.2947	4.11***
CEOAGE	0.0034	1.44	-0.0059	-0.37	0.0004	0.09	-0.0451	-1.98**	0.0529	2.24**	-0.0275	-1.61*	-0.0069	-1.33
CEOTEN	0.0045	1.62**	0.023*	1.24*	0.0087	1.94*	0.0162	0.61	-0.0385	-1.4	0.0001	0	0.0103	1.71
SIZE	0.2314	24.98***	0.2709**	4.36**	0.2830	18.79***	0.4542	5.14***	0.4935	5.38***	0.6515	9.87***	0.4076	20.24***
ROA_−1	0.0062	4.32*	0.0333*	3.49*	0.0117	5.06***	0.018	1.33	0.0173	1.22	0.0167	1.65*	0.0141	4.54***
RET_−1	-0.1195	-3.61*	1.3683***	6.17***	0.0557	1.04	-0.296	-0.94	0.7824	2.39	-0.2509	-1.06	-0.0328	-0.46
M2B	0.0006	0.95	-0.0043	-1.02	-0.0011	-1.05	0.0131	2.19	-0.0157	-2.52**	-0.002	-0.46	-0.0012	-0.91
LEV	-0.4346	-5.58***	-0.8213	-1.57	-0.5560	-4.39***	-0.0163	-0.02	-1.8529	-2.4*	-0.7694	-1.39	-0.765	-4.49***
VOL	0.0022	1.37**	-0.0452	-4.29	-0.0016	-0.61	-0.0086	-0.57	0.0052	0.33*	0.0042	0.38	0.0032	0.93
_cons	4.0615	24.45***	4.2099***	3.78***	4.4530	16.49***	3.3320	2.1*	-5.443	-3.31***	2.0384	1.72*	4.2320	11.72***
Ind. Dum.	YES		YES		YES		YES		YES		YES		YES	
R2	70%		24%		59%		14%		20%		29%		62%	

Legend: * p<.1; ** p<.05; *** p<.01

following year. These results give some support to the managerial power perspective which suggests that the action of replacing the remuneration consultant is interpreted in terms of "opinion-shopping" for favourable opinions from different consultants (Goh and Gupta, 2010). Under this theory, management tends to replace the firm's remuneration consultants in order to receive a more generous and favourable compensation package from the new consultant. Also, the findings are consistent with the interpretation of the use of multiple consultants, when powerful managers tend to hire more than one consultant in order to cast a wider net for more generous opinions. The same argument can be applied in this case when managers switch the firm's remuneration consultant in order to receive more favourable opinions.

Therefore, the results of further analysis reject the argument that remuneration committees may try to enhance compensation governance by switching remuneration consultants. They give support to Goh and Gupta's (2010) results, which states that there is strong evidence for the managerial power or rent-extraction hypothesis, by documenting that when firms switch their "main remuneration consultant", they are more likely to pay their executives more compensation and recommend less equity-based compensation. These findings imply that the action of switching the remuneration consultant can be interpreted under the managerial opinion-shopping hypothesis. However, unlike this study, I find this variable plays no role in determining either CEO salary or total short term compensation. Nevertheless, since this significant increase in the level of total CEO compensation, in terms of my results, is associated with a significant decrease in the CEOs' long-term compensation, this increase in the CEOs' total compensation is more likely to be generated by an increase in the short-term components, which confirms Goh and Gupta's findings.

6.6 Overall Summary

Remuneration consultants have been seen as an important tool in mitigating the conflict between shareholders and executives in public firms, since they are predicted to be specialised and have knowledge and expertise in managerial remuneration. As such they are able to supply advice and recommendations to the firm or to the remuneration committee. Therefore, it is important to investigate what factors affect the consultants' role in setting or recommending appropriate CEO compensation arrangements. This empirical study provides additional empirical evidence on the role and effect of remuneration consultants, and conflicted consultants, on the level and the structure of CEO compensation across a sample of 216 UK firms (561 observations) listed in the FTSE 350 over the five year period from 2004 to 2008.

In order to investigate this issue, a multivariate regression was applied. According to the nature and the characteristics of the data, clustering robust estimation is used in the primary analysis.

Moreover, a few further analyses were adopted as sensitivity or consistency tests and, generally, it can be claimed that the findings are robust, consistent and insensitive to different appropriate estimation methods and alternative specifications.

This empirical study concludes that, after controlling for the standard economic determinants of compensation (i.e. human capital characteristics, previous firm performance, risk, and growth opportunity), remuneration consultants are found to strongly determine the level and the structure of CEO compensation. With respect to the use of consultants, the analysis shows that CEOs receive greater salary, LTIPs and total compensation in firms using consultants. Also, this study finds that such firms award their CEOs lower annual bonuses, suggesting that such firms are more likely to incentivise their CEOs through the use of long-term incentive components (i.e. LTIPs) than short-term ones. Although the findings provide some support for the optimal contracting perspective that the use of consultants help in increasing manager-shareholder alignment by using the managerial compensation arrangements to incentivise managers to enhance the firms' value, they also provide some support for the managerial power approach, which argues that the CEO uses his/her power over the consultant to encourage the recommendation of a pay package that is particularly favourable to the CEO (i.e. incorporating more fixed and total compensation).

It might be inappropriate, however, to interpret these findings under both perspectives. Theoretically, it is argued that in order to produce optimal compensation contracts that aim to increase the shareholders' value, the proportion of the increase in incentive based compensation should replace a similar proportion in the fixed components (Crystal, 1991). Therefore, the results would appear to provide strong support for the optimal contracting approach if the increase in total compensation was associated with an increase in long-term components and a decrease in fixed components.

The results with regard to the use of multiple consultants show that this variable plays a significant role in increasing the total compensation of CEOs. However, the number of remuneration consultants is found to be non-significantly correlated with all other compensation variables. This significant increase in the level of CEO compensation reflects managerial power over remuneration consultants, which leads to a competitive dynamic between the firms' remuneration consultants when it comes to satisfying the CEO by recommending greater pay packages in order to remain in business and to protect their interests in the firm (Bebchuk and Fried, 2005; Bender, 2008; Minhat, 2008).

Remuneration consultants with conflicts of interest have been seen theoretically and empirically in previous studies to raise a question mark which affects the consultants' function. In order to investigate the impact of remuneration consultants with conflicts of interest (i.e. conflicted consultants) three main measures have been developed in this study. Firstly, whether the consultant provides other services to the focal firm, secondly, whether the consultant is appointed by management and, thirdly, whether the consultant is specialised in remuneration services or also offers other services, which reflects the remuneration consultants' desire to gain more financial benefits from the firm through the possibility of supplying other services in the future. Mainly, the analysis shows that conflicted consultants significantly affect the level and the structure of CEO compensation.

The first measure (i.e. providing other services) provides strong support for the managerial power perspective through a significant increase in the level of CEO compensation. That is, since the revenue which remuneration consultants obtain from supplying other services to the firms is, in general, much greater than that for compensation services (Waxman, 2007; Murphy and Sandino, 2010), these consultants indeed recognise the management's power over hiring or rehiring them in order to provide these other services, and thus it is in the interests of continuing this more lucrative employment that the management should be served in order to protect their current and future business within the focal firm.

Surprisingly, the results of the second measure show that firms with remuneration consultants who are appointed by the remuneration committee pay their CEO a greater salary, total short-term and total compensation. Also, as expected, this variable is also positively and significantly related to LTIPs and ESOs at the 5% significance level. These findings open up the possibility of other theoretical implications that might explain these surprising findings. That is, powerful managers who have influence over both the internal governance structure and over remuneration consultants may tend to make their excessive compensation appear more rational for outsiders by legitimising the process through hiring external advisors and thus the process of managerial pay-setting (see for example, Wade et al., 1997; Bender, 2008; Conyon et al., 2011). Hence, it is more logical to interpret these findings under the legitimising excessive compensation hypothesis of the managerial power theory. Also, the results of the use of legal advisors give some support to this hypothesis.

The results of the last measure of conflicted consultants (i.e. specialised vs. non-specialised consultants) illustrate that firms which use specialised consultants pay their CEOs a lower salary, which provides some evidence for the notion that specialised consultants are more independent and have less incentive to collude with management. Therefore, such consultants are found to play a

role in reducing agency costs while non-specialised consultants are more likely to facilitate the extraction of excess compensation due to their desire to provide other, more lucrative, services to the focal firm in future.

With respect to the effect of consultants' market share, this study offers strong evidence for the reputation hypothesis. Remuneration consultants with greater market share are found to effectively participate in reducing agency problems by setting appropriate CEO compensation and increasing the pay-performance relationship. Therefore, the results provide strong evidence for the notion that remuneration consultants with greater market share are less likely to collude with client firms' management or to engage in a gift-exchange relationship since their involvement in any corruption or scandal might have wider reaching damaging consequences for their future business as a result of a potential loss of reputation.

According to the main analysis, the action of switching the remuneration consultant is found to have no impact on either the level or the structure of CEO compensation in the same fiscal year. Following further analysis, this relationship was investigated in terms of the impact of the lagged consultant's turnover on the subsequent CEO compensation. Interestingly, this research found that this variable plays a significant role in increasing the level of CEO compensation and decreasing ESOs, implying that the action of replacing the remuneration consultant increases the agency problem through increasing the level of CEO compensation and reducing pay-performance sensitivity by decreasing the ESOs. Accordingly, these findings provide evidence to support the managerial opinion-shopping hypothesis of the managerial power theory.

Chapter Seven

Summary and Conclusion

7.1 Introduction

This thesis has investigated the role and effect of control, ownership structures and remuneration consultants in determining the level and the structure of CEO compensation. The short summary of the evidence from the results of the two empirical parts of the thesis and their interpretations are presented and discussed in this chapter. Furthermore, together with providing a summary of the research findings, this chapter summarises and addresses other major issues such as a restatement of the research problem and the research question, a description of the research methods used to answer the research question, the implications of this research, the research limitations and avenues for further research.

7.2 Restatement of the Research Problem and the Research Question

Opportunistic managerial behaviour results in executive compensation that does not lead to an enhancement of the firm's performance and is more favourable to managers than to shareholders. Theoretically, stronger internal governance, more effective shareholders and independent remuneration consultants are predicted to enhance compensation governance and limit managerial power and influence over executive compensation. In other words, when managers' opportunistic behaviour is constrained by strong monitoring systems, executive compensation is expected to play an important role in aligning the interests of managers with those of shareholders through the enhanced structural quality of compensation governance.

Specifically, four monitoring systems are found to affect compensation governance in the UK. These are the boards of directors, remuneration committees, shareholders and remuneration consultants. These internal and external factors are suggested by current theorists and practitioners, and by the previous literature to be effective in aligning the interests of managers and shareholders, reducing managers' power over the pay-setting process and thus improving the quality of compensation governance. The aim of this research was to investigate, empirically, the effect of corporate governance, ownership, and remuneration consultants on executive compensation practices in the UK. Therefore, the primary research question was: *Do corporate governance mechanisms and independent remuneration consultants constrain opportunistic managerial behaviour by reducing CEO compensation and setting appropriate executive compensation package in the UK?*

7.3 Summary of the Research Methodology

A challenging issue in the executive compensation literature is identifying the fundamental nature of the components and central to this problem is measuring the different compensation elements that comprise the total compensation package. Cash compensation components (i.e. salary, bonuses, benefits, allowances, etc.) do not include complex measures and are usually provided directly by the remuneration reports in firms' annual reports. However, non-cash components have a different nature and need to be paid more attention to, since they are more complex than cash components. Two main components were used in this study; namely LTIPs and ESOs. Following the previous literature, LTIPs were measured using the face value of the scheme, based on the share price on the grant date, while ESOs were evaluated using the Black-Scholes-Merton formula for European call options.

The measurements of governance, ownership and remuneration in terms of consultants' variables were consistent with previous studies that investigated issues related to corporate governance. However, a slight difference exists in the measurement of the proportion of independent directors on the board, on the remuneration committee and in the measure of chairman independence. The UK Corporate Governance Code's criteria are applied to evaluate the independence status of each individual in order to provide a more accurate measurement of board, remuneration committee and chairman independence.

Two models were constructed and a set of hypotheses were stated. The data with regard to these models' variables was collected for the fiscal year's corresponding to 2004-2008 to provide the most recent investigation in the literature and to investigate the impact of the UK Corporate Governance Code (2003) and the Directors' Remuneration Report Regulations (2002) on remuneration practice. The data is based on firms listed in the FTSE 350, since some of the Code's recommendations give exceptions to smaller firms and some of the provisions do not apply to firms smaller than those listed on the FTSE 350. Financial firms are excluded from the sample due to the different nature of their accounting practices.

Two main sources were used to gather the data; namely annual reports and DataStream. CEO compensation, governance, ownership, and CEO human capital variables were manually collected from the firms' annual reports. Financial and market data were gathered from DataStream and some of them were calculated using Excel. Twenty two hypotheses were derived from both models and tested using multivariate techniques to investigate whether corporate governance and remuneration consultants' attributes enhance compensation governance.

Selecting the appropriate estimation methods is a very critical stage in conducting any research as they ensure that the study's objectives will be validly achieved. In order to determine this validity in performing the analysis of the study, a careful examination of possible problems related to the nature of the data was undertaken. In general, most of the assumptions or the conditions of parametric methods were not met, and thus using non-parametric technique was suggested statistically. Since the problems of heteroscedasticity and autocorrelation is suspected in the first model, a GLS regression was preferred over pooled OLS regression, as it is assumed to control or correct for such problems, together with using the natural logarithm of compensation and firm size variables to correct for non-normality. Moreover, according to the statistical justifications put forward by Greene (2007) and Judge et al. (1985), and according to Hausman test results, the random effect model was chosen in the primary analysis with respect to the first empirical model.

In the second empirical model, several checks were made to diagnose the problematic features of the data, and to determine the appropriate statistical technique and estimation method used to test the hypotheses. According to the findings of these tests, it was decided to use cluster robust estimation in the primary analysis as it is statistically suggested for controlling the problems of autocorrelation and heteroscedasticity.

7.4 Summary of the Research Findings and Theoretical Implications

The overall results suggest that the corporate governance, ownership and the remuneration consultants' variables played a significant role in determining CEO compensation, after controlling for the standard economic and human capital determinants of compensation. However, the findings do not suggest that these attributes always play a positive role in constraining the opportunistic managerial behaviour. Surprisingly, some of the governance attributes were found to actively facilitate the executives' needs rather than monitor them. Accordingly, with regard to answering the main research question, this study concludes that, in general, corporate governance mechanisms do not constrain the opportunistic managerial behaviour through decreasing the level of executive compensation nor designing the structure of this compensation in favour of shareholders. Consequently, agency theory is found to not provide a comprehensive explanation for the relationship between corporate governance and executive compensation in UK firms and thus relaying on other perspectives such as stewardship theory and managerial power theory in understanding this phenomenon and/or issuing or amending the corporate governance rules and regulations is recommended.

	Table 7.1: Summary of Hypotheses and Findings	
N	Hypotheses	Findings
H1	There is a positive relationship between board size and the level of CEO total compensation	Supported and significant at $p < 0.01$
H2	Board independence is a decreasing function of the level of CEO total compensation	Not supported and significant at $p < 0.01$
H3	CEOs who are chairmen of their firms' boards receive higher total compensation	Not supported and significant at $p < 0.10$
H4	There is a positive relationship between non-executive directors' pay and the level of CEO compensation	Supported and significant at $p < 0.10$
H5	Firms with board of directors that are chaired by an independent chairman pay their CEOs less total compensation	Not supported
H6	Remuneration committee size is an increasing function of the level of CEO total compensation	Not supported and significant at $p < 0.01$
H7	There is a negative relationship between the proportion of independent directors on the committee and the level of CEO total compensation	Supported and significant at $p < 0.10$
H8	The duality of the remuneration committee and the board chairmanship has a positive impact on the level of CEO total compensation	Not supported
H9	Remuneration committee tenure is an increasing function of the level of CEO total compensation	Not supported and significant at $p < 0.05$
H10	There is a positive association between the proportion of external CEOs sitting on the remuneration committee and the level of CEO total compensation	Supported and significant at $p < 0.01$
H11	Remuneration committee's members' pay is an increasing function of the level of CEO total compensation	Supported and significant at $p < 0.01$
H12	CEO ownership has a positive impact on their total compensation	Not supported
H13	There is a negative relationship between the proportion of shares owned by the chairman of the board of directors and the level of CEO total compensation	Supported and significant at $p < 0.01$
H14	There is a negative relationship between the percentages of shares held by institutional investors and CEO total compensation	Not supported
H15	Firms that use external remuneration consultants pay their CEOs less total compensation	Not supported and significant at $p < 0.05$
H16	The number of consultants is positively related to CEO total compensation	Supported and significant at $p < 0.01$
H17	Firms with consultants who provide other services to management pay their CEOs higher levels of total compensation	Supported and significant at $p < 0.05$
H18	Firms that use specialised remuneration consultants pay their CEO less total compensation	Not supported
H19	CEOs of firms with remuneration consultants appointed by the remuneration committee receive lower total compensation	Not supported and significant at $p < 0.10$
H20	CEOs of firms that use remuneration consultants with a greater market share receive less total compensation	Supported and significant at $p < 0.05$
H21	Firms that use remuneration legal advisors pay their CEOs more total compensation	Not supported
H22	Firms that replace their remuneration consultant pay their CEOs higher total compensation	Supported and significant at $p < 0.10$

For example, while both theorists and regulators emphasise the need for setting up boards of directors with a majority of independent directors, this study's results found that such directors (either non-executive directors or independent non-executive directors) increase the agency problem by setting inappropriate compensation schemes that are in favour of executives rather than shareholders. Similarly, firms with boards of directors that are chaired by the CEO are found to enjoy stronger levels of compensation governance and lower agency problems, whereas agency

theory as well as regulator (e.g. the UK Corporate Governance Codes) requires firms to separate these positions by appointing two individuals. Therefore, these findings give strong support to the stewardship theory in explaining the relationship between some of the corporate governance attributes and executive compensation.

However, the results in terms of chairman independence provide some support for the agency theory and the regulators' requirements. That is, although this study finds no relationship between chairman independence and the level of CEO compensation, the significant relationship between this variable and total CEO long-term compensation gives some evidence that firms with independent chairmen enjoy greater levels of pay-performance sensitivity. This variable is therefore found to enhance the manager-shareholder alignment by setting appropriate executive compensation arrangements.

Additionally, the findings illustrate that board size has a significant impact on determining CEO compensation and show that smaller boards are found to provide their firms with better monitoring functions than larger boards. This provides some evidence in support of the managerial power theory which argues that larger boards are easier for the CEO to influence and control, since the chance of him/her developing relationships increases as the number of director's increases. Finally, according the cronyism hypothesis of the managerial power theory, the board of directors' hypothesis predicts that the non-executive directors' pay is an increasing function of CEO compensation. The findings provide strong support for this hypothesis.

Regarding the remuneration committee attributes, interesting results were obtained by this study. While the board size and the proportion of independent directors are negatively related to compensation governance, the remuneration committee size and its independence are found to positively affect the committee's monitoring function. That is, the association between larger and more independent remuneration committees and both the CEO's short-term and total compensation are negative and significant. Moreover, the proportion of independent directors in the remuneration committee is positively and significantly associated with the CEO LTIPs, implying that independent remuneration committees play an important role in not only reducing agency costs through decreasing managerial compensation, but also in increasing the manager-shareholder alignment by awarding the CEO more LTIPs, which is a performance-contingent component.

According to the Code's requirement, hypothesis 8 predicts that the duality of the remuneration committee and the board chairmanship has an inverse impact on the committee's monitoring function and leads to greater levels of CEO compensation. However, inconsistent with this

hypothesis, the findings show that this duality may have a positive effect on compensation governance by reducing the short-term incentives (i.e. bonuses) and increasing the long-term ones (i.e. LTIPs). Hence, even though this duality is non-significantly correlated to the level of CEO compensation, these findings indicate that it enhances the manager-shareholder alignment and thus reduces agency problems.

Hypothesis 9 questions the effect of the remuneration committee members' tenure on the level and the design of CEO compensation. Generally, there are two theoretical perspectives that can explain the impact of the directors' tenure on managerial compensation; namely, the expertise hypothesis (Vafeas, 2003b) and the CEO allegiance hypothesis (Vafeas, 2003b; Byrd and Cooperman, 2010). The findings give strong support to the former perspective. That is, this research identified superior monitoring by the longer-tenured directors who sit on the remuneration committee through the stronger negative effects on CEO salary, short-term, and total compensation, suggesting that directors who have served in the remuneration committee and the board of directors for a long time are less likely to be influenced by the CEO and will probably display more loyalty to the firm and more independency from management.

According to the managerial power theory, this study hypothesises that CEOs of other firms on the remuneration committee negatively affect the pay-setting process, and thus the governance quality, by setting compensation arrangements that are more favourable for their counterparts than for the shareholders. The findings in terms of CEO short-term and total compensation provide evidence in support of this perspective and show in that the association between this independent variable and these compensation components is positive and significant. However, the results with regard to performance-related compensation gives some evidence for the notion that such directors may play a positive role in setting challenging compensation that aims to enhance the firm's value.

A stronger support for the cronyism hypothesis is found in terms of the findings of the effect of remuneration committee members' compensation on the level and the structure of CEO compensation. The findings show that the committee members' pay is positively and significantly related to all short-term compensation variables together with the total level of CEO compensation. More importantly, the findings illustrate that this independent variable has a negative and significant impact on LTIPs, implying that the pay received by remuneration committee members plays a strong role not only in increasing the agency costs by awarding the executives greater levels of compensation, but also through damaging the executive incentive to enhance the firm's value.

With respect to the ownership structure, this study predicts that the impact of CEO ownership can be interpreted under the managerial power theory, where the managerial influence over the pay-setting process increases as their share ownership increases. The findings indicate some support for this hypothesis. Although CEO share ownership is not significantly correlated with the total CEO compensation, it was found to significantly affect the design of the CEOs compensation. That is, the relationship between CEO ownership and his/her salary and total short-term compensation is both positive and significant. Moreover, the proportion of ownership is found to play a significant role in decreasing the performance-related components (i.e. LTIPs and total long-term compensation), suggesting that CEOs use the power that is generated by their ownership to influence the structure of their compensation.

New and important evidence has been arrived at through this study in terms of chairman ownership. According to agency theory, the study hypothesises that chairmen with greater ownership are expected to have interests that are more aligned with those of shareholders, and thus such chairmen are predicted to improve the monitoring function of internal governance. In line with this hypothesis, the analysis concludes that the chairman ownership plays a significant role in enhancing compensation governance through significantly decreasing the CEOs' compensation. More interestingly, the findings with regard to performance-related compensation show that such chairmen are effective substitutes in part for managerial activities.

Finally, hypothesis 14 assumes that institutional ownership is negatively related to CEO compensation since they have the ability and incentive to monitor management in order to maximise their investment value. However, the findings of this ownership variable are inconsistent with this hypothesis. Institutions in the sample are neither found to play a meaningful role in determining the level nor the structure of CEO compensation. Therefore, consistent with some of the previous empirical evidence, I find that institutional shareholders in UK firms are passive and ineffective in terms of monitoring (e.g. Cosh and Hughes, 1997; Franks et al., 2001; Goergen and Renneboog, 2001).

The above findings are related to the first empirical study of this thesis which investigated the internal determinants of CEO compensation. The second empirical study of this thesis examined the role and effect of remuneration consultants in setting appropriate managerial compensation that leads to a mitigation of agency problems and enhances shareholder wealth. Eight main hypotheses were stated in order to investigate the relationship between the characteristics of remuneration consultants and the level and structure of CEO compensation. A brief presentation of this empirical study's findings is provided as follows:

The first hypothesis of this empirical study examines the impact of the use of consultants on CEO compensation. Mainly, the results show that the use of remuneration consultants leads to greater CEO salaries, LTIPs, total compensation and lower bonuses, which provides evidence in support of the managerial power perspective. One may argue that the results regarding the LTIPs give some support to the optimal contracting theory. However, this argument would be more believable and the results would give stronger support to the optimal contracting approach, if the increase in total compensation was associated with an increase in the long-term components and a decrease in the fixed components.

The findings from the use of multiple consultants also provide support for the managerial power theory. The results suggest that CEOs receive greater levels of compensation if their firms hire multiple remuneration consultants. However, the correlation between other compensation variables and the number of consultants is statistically non-significant. These findings reflect the possibility of managerial power over remuneration consultants which leads to a competitive dynamic between the firms' remuneration consultants, each hoping to satisfy the CEO by recommending greater pay packages in order to remain in demand from the focal firm and thus to protect their revenue stream (Bebchuk and Fried, 2005; Bender, 2008; Minhat, 2008).

In order to investigate the impact of remuneration consultants with conflicts of interest on the level and the structure of CEO compensation three measures were used. The first measure was whether the consultant provides other services to the focal firm. The findings with regard to this variable provide strong evidence that consultants who provide other services to a firm are not independent and are conflicted. That is, this study finds firms with such consultants pay their CEOs greater levels of compensation, which reflects managerial power over those consultants.

However, although this measure assumes that when the remuneration consultant who 'currently' does not provide other services is independent, this does not deny the potential conflict of interests that may arises from the consultants' desire to be hired by the focal firm in the future to provide other services. Therefore, this study investigated whether the use of specialised or non-specialised consultants (i.e. consultants who also offer other services), affected CEO compensation. The findings provide some evidence for the argument that specialised consultants are more independent in setting managerial compensation. That is, although this variable plays no role in determining the total CEO compensation, the results in terms of CEO salary suggests that firms using specialised consultants pay their CEOs lower salaries. In other words, it is suggested that remuneration consultants, in general, have a similar motivation to help the CEO extract excessive compensation. However, critics charge that the consultant's incentive to collude with management is greater when

the remuneration consultant is "non-specialised" in compensation services, i.e. when they provide other services in addition to compensation services (Armstrong et al., 2010). Such a consultant is assumed to have the desire and willingness to use executive compensation as an initial point of access for obtaining other services contracts in order to develop a gift-exchange relationship with management in the future, which leads to a second potential source of conflict of interests.

The third measure is whether the remuneration consultant is appointed by management or by the remuneration committee. This variable is predicted to reflect the conflict of interest that may arise from the consultants' desire to repeat business. Surprisingly and inconsistently with this hypothesis, I found that firms with remuneration consultants who were appointed by the remuneration committee paid their CEOs greater levels of compensation. These findings open the scope for other theoretical implications that might explain these surprising findings. For example, managers who have power over both control decisions and remuneration consultants, may tend to make their excessive compensation appear more rational to outsiders by legitimising the process of hiring an external advisor, and thus the process of managerial pay-setting. In other words, by influencing the remuneration committee's decision with respect to choosing the consultants, and then reporting that the remuneration consultant is appointed by the remuneration committee, this situation will give social acceptability to the level of consultant's independence and thus give more room for both managers and consultants to start a gift-exchange relationship (i.e. excessive compensation for repeat business).

In terms of the impact of the remuneration consultants' market share, this study offers strong evidence in support of the reputation hypothesis. Remuneration consultants with a greater market share are found to participate effectively in reducing agency problems by setting appropriate CEO compensation, together with increasing the pay-performance relationship. That is, while the relationship between the consultant's market share and CEO salary, bonuses, total short-term and total compensation is negative and significant, it is found to significantly increase the LTIPs, suggesting that such consultants play a significant role in decreasing executive compensation and increasing the performance-related components. Therefore, the results give strong support for the notion that remuneration consultants with a greater market share are less likely to collude with client firms' management, or to engage in a gift-exchange relationship, since their involvement in any corruption or scandal might result in damaging consequences for their future business as a result of a potential loss of reputation.

The findings of the relationship between the use of legal advisors and CEO compensation gives some support to the legitimising excessive compensation hypothesis, where managers try to make their

compensation appear more rational for shareholders by hiring an external legal advisor. That is, the results indicate that firms which use external legal advisors for remuneration purposes pay their CEOs more short-term or cash compensation and less long-term compensation in the form of ESOs. This suggests that such firms are predicted to have less manager-shareholder alignment, since their firms have a weaker pay-performance structure.

Finally, this study investigates the effect of switching remuneration consultants as this is one of the important issues that is widely argued to affect the executive compensation practices. According to the main analysis, the consultants' turnover is found to neither impact on the level nor the structure of CEO compensation of the same fiscal year. However, following a further analysis, this relationship was investigated in terms of the impact of the lagged consultant's turnover on the subsequent CEO compensation. Interestingly, this study finds this variable plays a significant role in increasing the level of CEO compensation, and decreasing ESOs, implying that the action of replacing the remuneration consultants increases the agency problem through increasing the level of CEO compensation and decreasing the long-term compensation (i.e. ESOs). Accordingly, these findings provide evidence in support of the managerial opinion-shopping hypothesis of managerial power theory.

7.5 Potential Limitations of the Research

This thesis has been empirically and theoretically conducted on a systematic basis with continuous reviews contributed by qualified and specialised supervisors and independent reviewers. However, I admit that there are potential theoretical and methodological limitations of this study, which are worth noting, and therefore the findings should be interpreted with awareness of these potential limitations. The main delimitations that are presented in this study are mostly methodological in nature and can be grouped into three categories; namely, theoretical and empirical delimitations, inherent data and sample limitations and constructs and variables limitations.

7.5.1 Theoretical and Empirical Delimitation

An important limitation that should be taken into account is in identifying the theoretical and empirical implications of the findings of this study. It should be noted that there are diverse and contrasting theories, hypotheses and approaches in the area since the existing variations in institutions of corporations have been established over time and it is not possible to rely on particular theoretical interpretations. The general premise of this research study is that the use of executive compensation as an indicator of the quality of corporate governance may mainly reflect the effectiveness of internal governance in constraining the opportunistic managerial behaviour and

the managers' tendency to take advantage of their power to increase the benefits they receive at the expense of shareholders.

Accordingly, the study does not provide a comprehensive evaluation of the role of governance mechanisms in controlling firms and enhancing the firm's value. Therefore, the reader should be aware of the danger of generalising the findings of this study on all aspects of governance quality and it is suggested that it should be interpreted according to the particular aspects used in this study. For example, while this study, among others, found that board size plays an inverse role in monitoring management through setting inappropriate CEO compensation, other studies have found that this variable has a positive impact on governance quality in counteracting managerial entrenchment and reducing earnings management (e.g. Chtourou et al., 2001; Xie et al., 2003; Peasnell et al., 2005; Yu 2008). However, considerable attempts are made to overcome these limitations by determining the way guided by the insights of related studies and the consistencies of the evidences contained in those similar studies. Equally, some of the provisions of the Code are also an excellent indication that of the relevance and contribution of this research to the existing literature.

7.5.2 Data and Sample Limitations

For a number of reasons, it is difficult for studies in corporate governance and executive compensation that utilise a UK-based sample to randomly select samples. For example, there are a limited number of UK firms that provide sufficient and relevant corporate governance and CEO release their compensation information publicly. Also, some of the UK Corporate Governance Code requirements give exemptions to smaller firms whilst some of the provisions do not apply to firms which are not large enough to feature in the FTSE 350. As a result, this research sample was selected based on pre-set criteria and therefore consists of a non-random selection. Such a selection method probably leads to an inherent sampling bias and hence to possibly inaccurate associations that are generated from the sample composition.

Furthermore, limiting the sample to firms that are listed in the FTSE 350 may lead to another sampling concern with respect to the firms' size. That is, the sample that was utilised in this research was limited to the top 350 UK companies, which results in a sample with a size bias. Nevertheless, an advantage of the inherent size bias is mitigating the effect of survivor bias. This phenomenon is widespread among smaller firms since they are more likely to be delisted and overtaken than larger firms.

Moreover, due to the different nature of their accounting practices and the different regulations that guide their compensation and governance practices, financial and investment firms were

excluded from the study sample. This exclusion may lead to a problem in generalising the findings to other sectors and indices within the UK. Another problem with generalisation may arise in terms of using UK-based data to offer any insights into other geographic areas. That is, since other countries have different cultures, codes, idiosyncratic practices, economic aspects, and capital markets in terms of firms with different sizes and demands for high quality executives, care should be taken with regard to generalising the findings of this study to firms in other countries.

However, the similarity of this study's results with those of studies using US data, implies a high degree of generalisation may be possible with regard to these findings. Additionally, the importance of such research on the UK business environment comes from the crucial role that UK corporate governance plays in the field of global business regulations and practices as a respected leader in the global business community. That is, many of the governance and disclosure regulations of other countries, including those of the US, are largely inspired by those of the UK. For example, it was UK regulatory bodies who first took the step to require firms to disclose information about the use of remuneration consultants in 2003. In 2005 and 2007, Canadian and US firms respectively followed the UK's lead and also required their firms to disclose such information. Therefore, the inspiring role that is played by the UK in the global compensation and corporate governance environment causes the findings of UK studies to have a high level of generalisability.

Overall, the problems relating to data and sample limitation stated above are ones I ultimately chose to live with following similar and related studies. I have stated such limitations in the analysis and the necessary delimitation this results in does not in my view detract from the validity of the study.

7.5.3 Constructs and Variables Limitations

Although this study mainly relies on previous theoretical and empirical works in constructing the empirical models and measuring the variables, some related limitations should be taken into consideration. In terms of dependent variables, all cash and equity-based components were collected and measured in a straightforward way, since they were provided in the annual reports. However, in some cases, the total long-term compensation contained some components that might be measured inaccurately.

For example, some long-term components such as the Management Combination Incentive Plan and Transformation Incentive Plan– option awards are performance-contingent components. However, due to the lack of disclosure about information with regard to these components they were measured using the face value of the scheme based on the share price on the grant date. Also, some firms were found to issue co-investment plans where the executives of the firms invest their own money in the plans. This sort of equity-based compensation is found to be more complicated when it

comes to measuring it, and it was therefore decided to not include it in this variable. Furthermore, although pension arrangements may give a useful indication of the quality of corporate and compensation governance, such arrangements were excluded from the study's dependent variables since they have different theoretical and practical implications which are beyond this study's scope.

In terms of control variables, even though this study employs a number of variables to control for the economic and human capital determinants of CEO compensation, it is highly possible that other factors not controlled in this study's analyses may affect the level and the structure of CEO compensation. For instance, some human capital characteristics, other than CEO age and tenure, such as CEO education and qualifications may reflect the quality of the CEO but are not included. This exclusion is mainly due to the lack of data availability and the difficulty of measuring such information. However, according to previous theoretical and empirical works, it can be claimed that the control variables that are included in this study's analysis covers the most important economic and human capital determinants.

Finally, examining only a specific set of corporate governance, ownership and remuneration consultants' characteristics is a limitation that should be taken into consideration when interpreting the results of the analyses. That is because, if other governance, ownership and remuneration consultants' attributes affect the level and the structure of CEO compensation, the parameter estimates may be biased.

7.6 Practical Implications of the Research

The previous section discusses the potential theoretical and methodological limitations of the study. However, in spite of these potential limitations, this study contributes to the existing scant literature with regard to the context of corporate governance and executive compensation. it also contributes regarding the impact of corporate governance, ownership structure and remuneration consultants on CEO compensation. More importantly, this research provides evidence that corporate governance, ownership structure and remuneration consultants play a significant role in determining the level and structure of executive compensation. Therefore, the findings have practical implications which are expected to help firms and regulators to enhance governance and executive compensation quality. They also encourage firms to counter intuitively passive when overseeing and controlling the compensation packages designed to enhance firm performance in order to satisfy the current shareholders and/or attract potential investors.

The study commenced in the nascent stages of a highly turbulent economic period which has seen the major economies of US and Europe experience a deeper and longer financial and economic crisis

than any other in living memory. Regarding the failures of huge and incredibly complex institutions in the banking sector and some other sectors, part of the blame has been placed on the excessive compensation packages in the corporate sector. It has become common knowledge that there has been poor corporate governance that failed to control the compensation quality, leading to truly devastating results. With the importance of quality control at the fore of people's minds, the findings in this research are hoped to provide helpful insights that will offer meaningful theoretic assistance in fixing the problem practically. Certain components of the internal and external control mechanisms and regulators are hoped to be more responsible and carry out their importance duty of safeguarding the investment of multitudes of shareholders that have entrusted their savings to them.

The evaluation of the effectiveness of internal and external monitoring devices (e.g. boards of directors, remuneration committees, ownership structure and remuneration consultants) is predicted to help investors and policymakers to assess the role of these monitoring devices in monitoring management and work towards increasing shareholders through setting appropriate managerial compensation that could help in aligning managers-shareholder interests. Therefore, the importance of investigating issues that relate to executive compensation lies in the fact that such studies give a clear indication of the quality of internal monitoring systems in constraining or facilitating opportunistic managerial behaviour.

Generally, newly issued corporate governance codes and regulations have been developed through long processes of extensive evaluations and are based on empirical evidence. Therefore, the UK regulatory bodies and corporate governance authorities that are interested in corporate governance, such as the Financial Reporting Council (FRC), can take advantage of this study and use it as empirical evidence when it comes to evaluating or developing their regulatory requirements and recommendations with respect to corporate governance and executive compensation. Also, this study's findings can be used by the UK stock market authorities to evaluate and enhance the current disclosure practices in terms of corporate governance, remuneration consultants and executive compensation.

In terms of the role of boards of directors, the corporate governance codes pay a great deal of attention to this monitoring device and perceive it as being at the heart of firms' internal control mechanisms. This study provides empirical evidence on the role of boards of directors' attributes in enhancing corporate governance quality. Consistent with the Code's recommendations with respect to board size, it is found that smaller boards are more likely to perform effectively and are more difficult to be influenced by management. Also, this study finds some evidence that boards of

directors that are chaired by an independent chairman provide a better monitoring function by setting CEO compensation that increases the manager-shareholder alignment, which is wholeheartedly in line with the Code's requirements that emphasise the chairman's independent status (provision A.3.1).

These findings suggest that shareholders and investors enjoy more benefits, and their firms are better monitored, if their firms' boards of directors are smaller and are chaired by independent chairmen. Therefore, following the regulatory requirements in this regard is predicted to enhance corporate and compensation governance quality by aligning the interests of executives with those of shareholders. However, while the Code is specific about the criteria that should be applied to determine the independent status of the chairman of the board, the recommendation with respect to board size is somewhat general. The Code states that "*The board should not be so large as to be unwieldy. The board should be of sufficient size that the balance of skills and experience is appropriate for the requirements of the business and that changes to the board's composition can be managed without undue disruption*" (provision A.3). Such vague and ambiguous guidance gives firms a wide spectrum on which to interpret this provision and to judge their status in a subjective, inconsistent and relatively unconstrained way. Therefore, more specific criteria in terms of board size are recommended.

Conversely, the findings with regard to board independence and CEO-chairman duality, do not support the Code's requirements. The UK Corporate Governance Combined Code (2003) requires firms to comprise their boards of directors with a majority of independent directors, according to the Code's criteria. However, the proportions of both non-executive directors and independent directors are found to play an inverse role in governance quality through setting inappropriate CEO compensation, suggesting that insider or executive directors provide better monitoring for their firms. Moreover, while the regulatory requirements encourage firms to separate the roles of CEO and chairman of the board by appointing two individuals, this duality is found to have a positive impact on corporate and compensation governance which is inconsistent with this requirement. Therefore, re-evaluating these requirements with respect to board independence and role duality is needed.

The results of both non-executive directors' and remuneration committee members' compensation indicate that, after controlling for firm size and complexity, greater levels of directors' pay is associated with greater levels of CEO cash and total compensation and lower levels of long-term compensation, implying that excessive compensation for non-executive directors and executives can be a result of an atmosphere of ineffective monitoring. Therefore, shareholders can use the

information with regard to non-executive directors who sit on the board and remuneration committee as an indication of weak internal governance. Additionally, due to the damaging consequences of such an environment, which is found to not only increase the agency costs that are incurred by shareholders, but also to adversely dull the managers' incentive to enhance the firm's value, regulators should pay more attention to this matter which needs more regulation and monitoring.

Regarding the composition of remuneration committees, strong support is given to the Code's recommendation with respect to committee size and independence. That is, the findings illustrate that remuneration committee size is significantly and negatively correlated to CEO cash and total compensation, suggesting that larger committees provide better monitoring functions than smaller ones. Furthermore, the relationship between the proportion of independent directors, according to the Code's criteria, on the remuneration committee, and CEO salary, short-term and total compensation is both negative and significant. More interestingly, this proportion is found to significantly increase performance related compensation in the form of LTIPs, implying that independent remuneration committees play an important role in monitoring management and increasing the manager-shareholder alignment.

These findings are consistent with the UK Corporate Governance Combined Code (2003) which requires firms to establish remuneration committees of at least three directors who should all be independent non-executive directors (provision B.2.1). As noted above, while independent directors on the board are found to negatively affect governance quality, they are found to effectively monitor management when they sit on the remuneration committee. This suggests that independent directors are more independent and perform better when they work on subcommittees than on the board of directors.

However, the analysis shows that the duality of the same individual chairing the remuneration committee and the board of directors simultaneously significantly increases long-term incentive plans and significantly decreases short-term incentives (i.e. bonuses), suggesting that the interests of shareholders are more aligned with those of managers in firms with remuneration committees that are chaired by the chairman of the board. These findings are inconsistent with the UK Corporate Governance Combined Code (2006) which requires firms to separate these positions by appointing two individuals (provision B.2.1). Accordingly, the direction of this regulatory requirement is not empirically supported.

With respect to the impact of remuneration committee members' tenure, this research found that remuneration committees with long-tenured directors award CEOs a significantly lower salary, short-term and total compensation, suggesting that greater tenure leads to greater business and industry knowledge and therefore result in a higher level of monitoring by longer-tenured board and committee members. These findings shed some light on the validity of one of the non-executive directors' independence criteria in terms of directors' tenure. The UK Corporate Governance Combined Code (2003) establishes that, among other classification requirements, the director should not be considered as independent if she/he has served on the board for more than nine years. Therefore, reconsideration of this maximum time restriction is recommended since this study clearly finds that firms with longer-tenured remuneration committees enjoy better monitoring.

The analysis of the role of CEOs of other firms who sit on the remuneration committee shows that this proportion of directors play a significant role in increasing their counterpart's short-term and total compensation. However, although this unique bracket of external directors is found to increase the agency problem by maximising executive compensation, some evidence is documented for the positive role of the directors in enhancing the manager-shareholder alignment through increasing ESOs and total long-term compensation. Accordingly, shareholders of firms with a greater proportion of CEOs of other firms on the remuneration committee should expect extra agency costs and higher pay-performance sensitivity.

In terms of ownership structure, although the regulatory reform actions in the UK pay a great deal of attention to the role of institutional ownership in controlling and monitoring public firms (see, for example, the UK Corporate Governance Combined Code, 2003, provisions D and E), institutional investors are found to play no role in monitoring management and in determining the level and the structure of executive compensation. Among others, the findings of this study show that institutional shareholders in UK firms are, by and large, still passive and therefore ineffective in monitoring.

The observed ineffectiveness and weak monitoring on the part of institutional investors may be caused by the potential liquidity costs, free-rider problems, conflict of interests and strategy alignment (Coffee, 1991; Bhide, 1994; Maug, 1998; Ozkan, 2007). Also, Dong and Ozkan (2008) suggest that one of the reasons that might reduce institutions' ability to provide an effective monitoring function is the inherent agency problem within these institutions themselves. Therefore, several reasons may prevent institutional investors from monitoring management. Consequently, according to my results, UK institutional investors suffer from one or more of these obstructions.

However, unlike institutional ownership, insider shareholdings are found to play an important role in determining managerial compensation. For example, the findings indicate that chairman shareholder ownership is significantly and negatively associated with the level of CEO compensation, implying that interests of the chairman are more aligned to those of shareholders as their personal ownership increases. Therefore, firms with a board of directors chaired by chairmen with significant shareholdings are expected to have fewer agency problems and to enjoy better governance quality. Shareholders should take these findings into consideration when choosing or electing chairmen. Also, regulators can take heed of these results when proposing any amendments or recommendations related to chairman characteristics.

Finally, CEO ownership is found to be an increasing function of managerial power over control decisions, and therefore in turn on managerial compensation. Although this variable has no effect on the level of CEO compensation, it plays a significant role in changing the structure of CEO compensation. That is, the findings indicate that CEO ownership is positively related to CEO salary and to total short-term compensation, and is negatively associated with LTIPs and total long-term compensation. Hence, even though firms with greater managerial ownership are expected to have fewer agency problems, executive compensation arrangements are not found to increase pay-performance sensitivity. According to these findings, shareholders should ensure that the pay-setting process is independent of the management in firms with greater managerial ownership.

Regarding the role and effect of remuneration consultants in determining the CEO compensation, the findings of this empirical study provide a great deal of support for the managerial power perspective when interpreting the relationships. For example, although the findings imply that the use of consultants can help in enhancing managers-shareholders alignment through increasing the CEO long term compensation in the form of LTIPs, the positive and significant association between this practice and CEO salary and total compensation is explained by the managerial influence over remuneration consultants. Similarly, the relationship between the use of multiple consultants and total CEO compensation also reflects some aspects of the opinion-shopping hypothesis proposed by the managerial power perspective.

Accordingly, shareholders of firms which use remuneration consultants and/or multiple consultants are expected to incur extra agency costs by such consultants recommending inappropriate compensation schemes that are more favourable to managers, together with the cost of hiring such consultants. A theoretical explanation for these findings is that the remuneration consultants will serve the managers' needs if they are not independent and under the influence of management.

Therefore, this study pays a great deal of attention to this issue and examines the consultants' independence using three main attributes.

The results of this research provide evidence to support the regulatory concern about the dangers of potential impairment of the consultant's independence if compensation and non-compensation services are supplied simultaneously. The findings with regard to a remuneration consultant providing other services to the focal firm provide strong evidence of the harmful consequences for hiring such consultants who stand to benefit more through their supply of other services to the firm. Such consultants are found to significantly increase the level of CEO compensation, together with increasing all compensation variables with the exception of total long-term compensation. Moreover, the examination of whether consultants specialising in compensation services and those who also offer other services show similar findings with respect to cash compensation, suggests that conflicted consultants who provide other services to the firm, or those consultants with potential conflicts of interest (i.e. who may simply have the desire to provide other services to the focal firm) indeed negatively affect the quality of compensation governance.

These findings imply that the quality of compensation governance increases as the consultant is more independent of management. Therefore, shareholders and boards of directors should ensure that the remuneration consultant is independent, and has no other interests in the firm that may affect his independent status, to most confidently ensure the quality of the remuneration process is beyond obvious reproach. Furthermore, regulators should take the findings of this study and the observed conflict of interests between consultants and shareholders into consideration and require management to not engage in any other business with their remuneration consultants.

On the other hand, the third measure offers surprising results. Inconsistently with the theoretical predictions, this study found that firms with remuneration consultants who were appointed by the remuneration committee pay their CEOs greater levels of compensation, implying that the action of giving the remuneration committee the responsibility of hiring the consultant does not enhance the consultant's independence. More interestingly, this action is found to give more opportunity for both managers and consultants to start a gift-exchange relationship (i.e. excessive compensation for repeat business). This suggests that powerful managers who have influence over both the internal governance structure and the remuneration consultants appointment to provide other services may tend to make their excessive compensation appears more rational for outsiders by legitimising the process of hiring the external advisor and thus superficially rationalise the process of managerial pay-setting. As a result, it is clear that the process by which the consultant is appointed cannot in its own right be taken to reflect the consultant's independence.

In line with this interpretation, the use of legal advisors can also be interpreted in terms of legitimising the process of executive pay-setting. The use of a legal advisor is found to harm the manager-shareholder interest alignment through decreasing long-term compensation, and increasing the CEOs' cash compensation. Therefore, managers of firms using remuneration legal advisors are found to have interests that are less aligned with shareholders, meaning such owners are found to incur extra agency costs in an ineffective way.

In terms of the impact of the consultant's market share, strong support is given to the reputation hypothesis by the findings with regard to this variable. The results imply that firms are expected to enjoy greater levels of compensation governance, and therefore enhanced managers-shareholders alignment, if they receive advice from consultants with greater market share. The evidence of this study has the implication that new and small-medium consultant companies that tend to grow speedily should be regulated, their recommendations taken with due caution and that the corporate sector should lean towards appointing large consultant companies where possible.

Finally, some evidence is found for the managerial power perspective by the findings of the relationship between the remuneration consultants' turnover and CEO compensation. Although the analysis documents a non-significant relationship between switching the consultant and CEO compensation in the same fiscal year, I found that this relationship was positive and significant in terms of subsequent CEO compensation. Also, this variable was found to significantly decrease the subsequent CEO long-term compensation. Accordingly, these findings suggest that monitoring the process of hiring or switching the remuneration consultants, and requiring disclosure of the reasons for doing so, can help in constraining managerial influence over the remuneration consultants.

Generally, the findings of this study have some important implication especially with regard to the recent financial crises. Regarding the failures of huge and incredibly complex financial institutions , part of the blame has been placed on the excessive executive compensation packages and the inappropriate executive compensation arrangements. It has become common knowledge that there has been poor corporate governance that failed to control the compensation quality, leading to truly devastating results. This study adds new evidence to this argument and provides empirical evidence on the damaging consequences of the managerial opportunistic behaviour on shareholders wealth and their investment value. This research found that, in general, executive compensation arrangements in the UK are clearly designed to satisfy executives' needs rather than to increase and protect shareholders wealth since. That is, this study concludes that many of the findings of the relationship between corporate governance, remuneration consultants and executive compensation

are highly explained by the power of managers over the internal control decisions which leads to increase their own benefits at the expense of shareholders' interests.

In conclusion, this research's results assist in identifying which corporate governance mechanisms are likely to affect compensation governance quality. They demonstrate that the attributes of smaller boards, CEO duality, independent chairmen, larger and independent remuneration committees, longer-tenured directors on the remuneration committees and chairmen with significant ownership are all important and effective attributes in improving the UK CEO compensation governance quality. While the UK Corporate Governance Combined Code (2003) addresses some of these mechanisms to a certain extent, the evidence that has emerged from this study indicates that these crucial attributes of corporate governance and ownership call for further consideration on the part of regulators. Finally, the descriptive analyses of this research contribute to corporate governance research by providing a comprehensive examination of corporate governance compliance with regulatory requirements on the part of UK firms.

7.7 Key Areas for Future Research

Although the findings of this research provide evidence that a number of corporate governance, ownership and remuneration consultants' attributes play a significant role in determining the level and the structure of CEO compensation, some features exist that are not covered by this research but which could be relevant to the issue of CEO compensation determinants. One attractive area for future research is investigating additional corporate governance characteristics that may affect the quality of compensation governance. An example of such additional tests would be investigating the impact of chairmen and non-directors' commitment in determining CEO compensation and in enhancing the manager-shareholder alignment by using the number of meetings and/or attendance rates at meetings of the board and of the remuneration committee.

As mentioned earlier, the findings of this study reflect the role of a number of chosen attributes in constraining, or facilitating, opportunistic managerial behaviour in setting executive compensation. Thus it might be difficult to generalise the findings to reflect all firms' aspects. Therefore, investigating the effects of these attributes on other business aspects such as firm performance and earnings management could help in determining the exact impact of these governance characteristics in controlling public firms and increasing shareholders value. Similarly, the examination of the impact of CEO compensation and CEO performance-related components that were used in this study of firm performance, or the subsequent firm performance, is predicted to help further clarify whether the executive compensation arrangements encourage the CEO to increase the firm's value. Particularly, it would be interesting to conduct more focused investigation

on the impact of the remuneration committee characteristics or composition and decision process on compensation packages for both CEO's and external consultants, and explore whether such decisions contribute in enhancing firm performance simultaneously since the compensation decisions should clearly reflect the alignment of interest between management and shareholders. This requires a structural equation modelling process where CEO compensation and firm performance will be endogenous dependent variables.

In terms of the impact of ownership structure, the findings with regard to chairmen's shareholder ownership shed some light on the positive role of insider ownership in enhancing corporate governance quality. For example, investigating the role of the remuneration committee chairman and directors' ownership would provide us with a new insight into the role of remuneration committee members' ownership in increasing the alignment of interests between shareholders and committee members. Moreover, the lack of findings with respect to the role of institutional ownership in this study might have been caused by the fact that no difference was acknowledged between institutional investors in terms of their investment horizons. Therefore, examining the role of institutional investors with regard to executive compensation after classifying them into long-horizon and short-horizon investors might help to explain the passive role of institutional investors in the UK.

Furthermore, due to resource and time constraints at the data collection stage, this study investigates the impact of corporate governance, ownership structure, and remuneration consultants on CEO compensation of the five years' time period ends in 2008 and excludes the flowing years. However, it would be interesting to conduct another study using a different set of data that includes the flowing years (i.e. 2009-2012) in order to compare the corporate governance and executive compensation before and after the financial crises. This would enhance our understanding of the direct effects of the global financial crisis on firms' practices with regard to corporate governance and executive compensation.

Another interesting avenue for further research would be conducting a comparative study between the US and UK firms in terms of the impact of corporate governance and ownership structure characteristics on determining executive compensation. Moreover, since remuneration consultants' information for the US is now available as a result of the mandatory disclosure requirements of 2006, a comparative panel data research between these countries with regard to the role and effect of remuneration consultants on CEO compensation would provide an interesting contribution to the field. Moreover, it might be interesting to perform a comparative study between the one-tier and two-tier board systems of an Anglo-Saxon and a Continental European country' firms respectively on

the impact of the corporate governance, ownership structure and remuneration consultants on CEO compensations.

Also, a replication of this study utilising wider stock market data from different countries would be helpful in discovering an insight into the response of different environments to the phenomenon of corporate governance and executive compensation. Furthermore, as this research excludes smaller firms and some sectors, an opportunity might arise for further research into the impact of corporate governance and remuneration consultants on executive compensation practices in smaller firms or in financial and investment firms.

Finally, although this research has totally relied on a quantitative method to investigate the relationships between CEO compensation and corporate governance mechanisms and remuneration consultants as this method is more relevant to achieve the research objectives, employing also a qualitative method in the form of elite interviews to investigate the subject matter in order to get the perceptions of all the stakeholders would have been further informative. Therefore, as the literature that reports investigations into the relationship between corporate governance and executive compensation has mainly utilised quantitative approaches, supplementing these empirical investigations by using interview data would potentially increase the reliability and the validity of the results and therefore make a worthwhile contribution to our understanding of this area.

7.8 Summary

This chapter has provided a summary and the conclusions of this thesis. It restates and readdresses the study questions and problem, together with highlighting the research methodology that has been applied in order to answer the research question. Also, the findings of the two empirical studies have been summarised and their theoretical and practical implications presented. Finally, the potential theoretical and methodological limitations of this study have been addressed and suggestions for future research outlined.

This thesis indicates that certain sets of corporate governance, ownership and remuneration consultant characteristics assist in limiting the existence of opportunistic managerial behaviour and of designing CEO compensation in such a way that increases the manager-shareholder alignment and reduces the agency problem. However, some attributes are found to play an inverse role, and actively increase the agency costs that are incurred by shareholders. The findings show that smaller boards, CEO duality, independent chairmen, larger and independent remuneration committees, longer-tenured directors on remuneration committees, chairmen with significant ownership and

independent remuneration consultants are negatively correlated with the level of CEO compensation at different significance levels.

The main contribution of this thesis to the existing knowledge is that it extends the literature on the role of corporate governance, ownership structure and remuneration consultants in determining CEO compensation, and in limiting managerial power over the executive pay-setting process. This thesis's findings are therefore clearly useable for investors and regulators. Investors can rely on these findings in designing the composition of boards of directors and subcommittees in a way that enhances internal governance quality, while regulators can use the results to define effective governance attributes and evaluate the previous governance recommendations and disclosure requirements.

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APPENDICES

Appendix A:

Summary of the First Model's Findings

Table A.1 Summary-Determinants of Salary								
	GLS (Random Effect)		Fixed Effect		OLS		Robust	
Board Composition	Coef.	z-value	Coef.	z-value	Coef.	p-value	Coef.	z-value
BSIZE	0.03	4.65***	0.31	4.93***	0.03	4.26***	0.0288	4.45***
NEDs	0.61	4.68***	0.61	4.68***	0.61	3.62***	0.6133	3.93***
INDs	0.29	1.99**	0.29	1.99**	0.29	1.76*	0.2946	1.88*
DUAL	-0.00	-0.03	-0.01	-0.13	0.00	-0.02	-0.002	-0.02
NEDPAY	0.06	5.16***	0.62	5.17***	0.06	5.06***	0.0616	5.34***
CHAIRIND	-0.00	-0.09	0.00	0.03	0.00	-0.09	-0.0022	-0.1
Remuneration Committee Composition								
RCSIZE	0.00	0.13	-0.00	-0.02	0.00	0.12	0.0014	0.12
RCIND	-0.21	-2.51***	-0.22	-2.67***	-0.21	-2.84***	-0.2060	-2.96***
RBDUAL	0.04	0.74	0.04	0.82	0.04	0.64	0.0384	0.68
RCTEN	-0.01	-2.94***	-0.14	-2.95***	-0.01	-1.98**	-0.0136	-2.51**
CEOs	-0.00	-0.02	-0.00	-0.01	0.00	-0.02	-0.0009	-0.02
RCPAY	0.09	3.86***	0.08	3.45***	0.09	2.79***	0.0852	3.07***
Ownership Structure								
CEOOWN	1.52	4.56***	1.58	4.71***	1.52	2.00**	1.5211	2.42**
CHOWN	-1.26	-5.63***	-1.23	-5.63***	-1.23	-1.49	-1.2325	-1.82*
INSOWN	-0.05	-0.47	-0.08	-0.78	-0.05	-0.37	-0.0463	-0.41
Control Variables								
CEOAGE	0.01	5.07***	0.01	5.16***	0.01	4.64***	0.0091	4.86***
CEOTEN	0.01	2.96***	0.01	2.69***	0.01	2.93***	0.0063	3.16***
TOTASSTs	0.14	10.9***	0.13	10.6***	0.14	8.92***	0.1367	9.49***
ROA_{-1}	0.00	2.94***	0.00	2.63***	0.00	2.72***	0.0034	2.94***
RET_{-1}	-0.11	-4.22***	-0.10	-3.18***	-0.11	-3.23***	-0.1086	-3.59***
M2B	0.00	0.04	-0.00	-0.14	0.00	0.02	0	0.1
LEV	-0.22	-3.53***	-0.23	-3.58***	-0.22	-3.46***	-0.2215	-3.59***
VOL	-0.00	-1.54	-0.00	-1.28	0.00	-1.35	-0.0019	-1.4
_cons	3.72	24.8***	3.76	24.8***	3.72	21.3***	3.7215	23.2***

Table A.2 Summary-Determinants of Bonus								
	GLS (Random Effect)		Fixed Effect		OLS		Robust	
	Coef.	z-value	Coef.	z-value	Coef.	p-value	Coef.	z-value
Board Composition								
BSIZE	-0.00	-0.02	0.02	0.44	0.00	-0.02	-0.0009	-0.02
NEDs	1.45	1.83*	1.53	1.93*	1.45	1.89*	1.4508	1.97**
INDs	0.01	0.01	-0.07	-0.08	0.01	0.01	0.0067	0.01
DUAL	-1.47	-3.44***	-1.54	-3.61***	-1.47	-2.39**	-1.4715	-2.57**
NEDPAY	-0.06	-0.78	-0.05	-0.69	-0.06	-0.74	-0.0566	-0.78
CHAIRIND	-0.03	-0.21	-0.01	-0.05	-0.03	-0.22	-0.0298	-0.23
Remuneration Committee Composition								
RCSIZE	-0.09	-1.41	-0.11	-1.70*	-0.09	-1.52	-0.0936	-1.56
RCIND	-0.38	-0.77	-0.47	-0.94	-0.38	-0.77	-0.3823	-0.81
RBDUAL	-1.10	-3.50***	-1.04	-3.30***	-1.11	-2.51**	-1.1067	-2.63***
RCTEN	-0.03	-1.20	-0.04	-1.29	-0.03	-1.22	-0.0335	-1.4
CEOs	0.37	1.14	0.38	1.17	0.37	1.33	0.3723	1.37
RCPAY	0.56	4.20***	0.49	3.58***	0.56	3.04***	0.5616	3.4***
Ownership Structure								
CEOOWN	-0.92	-0.46	-0.36	-0.18	-0.92	-0.29	-0.9208	-0.33
CHOWN	-1.32	-0.99	-1.41	-1.07	-1.32	-0.85	-1.3155	-0.96
INSOWN	-0.78	-1.32	-1.08	-1.82*	-0.78	-1.28	-0.779	-1.32
Control Variables								
CEOAGE	-0.02	-1.49*	-0.01	-1.30	-0.02	-1.57	-0.0163	-1.62
CEOTEN	0.03	2.28**	0.03	1.94*	0.03	2.4**	0.0294	2.52**
TOTASSTs	0.24	3.16***	0.22	2.90***	0.24	2.92***	0.2398	3.12***
ROA_{-1}	0.04	5.47***	0.03	4.94***	0.04	4.14***	0.0378	4.42***
RET_{-1}	1.18	7.58***	1.28	6.81***	1.18	5.32***	1.1815	5.82***
M2B	-0.00	-0.09	-0.00	-0.03	0.00	-0.03	-0.0001	-0.22
LEV	-1.19	-3.14***	-1.23	-3.25***	-1.19	-2.93***	-1.1947	-3.04***
VOL	-0.02	-2.07**	-0.01	-1.66	-0.02	-1.68*	-0.0159	-1.77*
_cons	2.91	3.21***	3.22	3.54***	2.91	3.15***	2.9074	3.36***

Table A.3 Summary-Determinants of Total Short-term Compensation							
	GLS (Random Effect)		Fixed Effect		OLS		Robust	
	Coef.	*z-value*	*Coef.*	*z-value*	*Coef.*	*p-value*	*Coef.*	*z-value*
Board Composition								
BSIZE	0.03	3.43***	0.03	3.87***	0.03	3.49***	0.0304	3.57***
NEDs	0.77	4.13***	078	4.21***	0.77	3.64***	0.7749	3.76***
INDs	0.82	3.89***	0.82	3.87***	0.82	3.8***	0.8228	3.92***
DUAL	-0.17	-1.71*	-0.19	-1.87*	-0.17	-1.61	-0.1729	-1.74*
NEDPAY	0.02	1.33	0.02	1.37	0.02	1.33	0.0227	1.38
CHAIRIND	-0.01	-0.42	-0.01	.025	-0.01	-0.42	-0.0141	-0.43
Remuneration Committee Composition								
RCSIZE	-0.04	-2.61***	-0.05	-2.88***	-0.04	-2.77***	-0.0409	-2.83***
RCIND	-0.38	-3.23***	-040	-3.45***	-0.38	-3.31***	-0.3790	-3.45***
RBDUAL	-0.08	-1.09	-0.07	-0.94	-0.08	-1.1	-0.0816	-1.16
RCTEN	-0.02	-3.39***	-0.02	-3.43***	-0.02	-3.43***	-0.0224	-3.61***
CEOs	0.14	1.76*	0.14	1.80*	0.14	1.85*	0.1360	1.89*
RCPAY	0.22	7.07***	0.21	6.49***	0.22	5.08***	0.2233	5.47***
Ownership Structure								
CEOOWN	1.17	2.45***	1.30	2.73***	1.17	2.02**	1.1705	2.26**
CHOWN	-1.03	-3.30***	-1.05	-3.36***	-1.03	-1.93*	-1.0334	-2.22**
INSOWN	-0.01	-0.07	-0.08	-0.57	-0.01	-0.07	-0.0096	-0.07
Control Variables								
CEOAGE	0.00	1.51	0.00	1.70*	0.00	1.49	0.0039	1.53
CEOTEN	0.01	4.16***	0.01	3.81***	0.01	3.93***	0.0127	4.06***
TOTASSTs	0.16	9.10***	016	8083***	0.16	8.62***	0.1633	8.91***
ROA_{-1}	0.01	6.38***	0.01	5.79***	0.01	5.05***	0.0104	5.44***
RET_{-1}	0.05	1.36	006	1.37	0.05	1.3	0.05	1.37
M2B	0.00	0.46	0.00	0.25	0.00	0.23	0.0001	1.26
LEV	-0.38	-4.24***	-0.39	-4.35***	-0.38	-4.25***	-0.3814	-4.35***
VOL	-0.00	-1.66*	-0.00	-1.22	0.00	-1.55	-0.003	-1.61
_cons	3.92	18.32***	4.00	18.59***	3.92	18.15***	3.9242	18.94***

Table A.4 Summary-Determinants of LTIPs							
	GLS (Random Effect)		Fixed Effect		OLS		Robust	
	Coef.	*z-value*	*Coef.*	*z-value*	*Coef.*	*p-value*	*Coef.*	*z-value*
Board Composition								
BSIZE	0.02	027	0.06	1.04	0.02	0.25	0.0162	0.26
NEDs	0.36	0.29	0.39	0.31	0.36	0.25	0.3647	0.26
INDs	-1.83	-1.26	-1.89	-1.32	-1.81	-1.21	-1.8124	-1.25
DUAL	-1.02	-1.49	-1.18	-1.73*	-1.03	-1.3	-1.0281	-1.4
NEDPAY	0.20	1.76*	0.22	1.92*	0.20	1.64	0.2042	1.69*
CHAIRIND	0.31	1.35	0.37	1.66*	0.31	1.36	0.3081	1.38
Remuneration Committee Composition								
RCSIZE	-0.06	-0.56	-0.10	-0.91	-0.06	-0.5	-0.0595	-0.51
RCIND	1.44	1.80*	1.18	1.50	1.44	1.75*	1.4381	1.8*
RBDUAL	0.84	1.66*	0.99	1.96**	0.84	1.63	0.8429	1.72*
RCTEN	-0.05	-1.12	-0.56	-1.26	-0.05	-0.96	-0.0502	-1.09
CEOs	-0.09	-0.17	-0.09	-017	-0.09	-0.2	-0.0892	-0.21
RCPAY	-0.46	-2.15*	-0.65	-2.97**	-0.46	-2.4**	-0.4618	-2.5**
Ownership Structure								
CEOOWN	-8.43	-2.6***	-7.40	-2.30**	-8.43	-2.34**	-8.4332	-2.56**
CHOWN	-3.51	-1.65*	-3.52	-1.67*	-3.51	-1.31	-3.513	-1.52
INSOWN	0.96	1.01	0.31	0.33	0.96	1.01	0.9647	1.04
Control Variables								
CEOAGE	-0.02	-1.39	-0.02	-1.19	-0.02	-1.29	-0.0245	-1.32
CEOTEN	0.02	0.73	0.00	0.16	0.02	0.6	0.0151	0.63
TOTASSTs	0.56	4.62***	0.52	4.28***	0.56	4.65***	0.5646	4.81***
ROA_{-1}	0.01	0.52	0.00	1.18	0.01	0.47	0.0058	0.54
RET_{-1}	-0.30	-1.18	0.14	0.46	-0.30	-1.1	-0.2962	-1.14
M2B	0.00	0.40	-0.00	-0.03	0.00	0.04	0.0005	0.43
LEV	0.07	0.12	-0.023	-0.04	0.07	0.12	0.0738	0.13
VOL	-0.02	-1.31	-0.01	-0.97	-0.02	-1.2	-0.0162	-1.24
_cons	3.28	2.25**	4.18	2.87**	3.28	2.25**	3.2805	2.31**

Table A.5 Summary-Determinants of ESOs							
	GLS (Random Effect)		Fixed Effect		OLS		Robust	
	Coef.	*z-value*	*Coef.*	*z-value*	*Coef.*	*p-value*	*Coef.*	*z-value*
Board Composition								
BSIZE	0.17	2.85***	0.10	1.75*	0.17	2.48**	0.1698	2.55**
NEDs	-1.07	-0.85	-1.16	-0.95	-1.07	-0.71	-1.0708	-0.75
INDs	5.12	3.60***	5.35	3.88***	5.12	3.18***	5.1249	3.28***
DUAL	-0.09	-0.13	013	0.20	-0.09	-0.11	-0.0872	-0.12
NEDPAY	-0.28	-2.4***	-0.32	-2.8***	-0.28	-2.4**	-0.2806	-2.5**
CHAIRIND	-0.39	-1.73*	-0.48	-2.22**	-0.39	-1.72*	-0.3899	-1.75*
Remuneration Committee Composition								
RCSIZE	0.00	0.02	0.05	0.53	0.00	0.01	0.0016	0.01
RCIND	-0.78	-1.00	-0.47	-0.62	-0.79	-0.9	-0.785	-0.92
RBDUAL	0.19	0.38	-0.07	-0.14	0.19	0.37	0.1931	0.39
RCTEN	0.02	0.38	0.03	0.71	0.02	0.27	0.0167	0.34
CEOs	1.87	3.60***	1.88	3.73***	1.87	3.37***	1.8727	3.44***
RCPAY	0.03	0.13	0.35	1.65*	0.03	0.14	0.0284	0.15
Ownership Structure								
CEOOWN	4.46	1.39	3.11	1.00	4.46	1.74*	4.4552	1.83*
CHOWN	-2.62	-1.25	-2.57	-1.26	-2.62	-2.13**	-2.6215	-2.23**
INSOWN	-1.37	-1.46	-0.47	-0.51	-1.37	-1.37	-1.368	-1.4
Control Variables								
CEOAGE	-0.00	-0.28	-0.10	-0.62	0.00	-0.28	-0.0048	-0.29
CEOTEN	-0.04	-2.10**	-0.03	-1.29	-0.04	-2.33**	-0.0431	-2.5**
TOTASSTs	0.17	1.41	0.23	1.94**	0.17	1.3	0.1697	1.34
ROA_{-1}	-0.00	-0.09	0.00	1.10	0.00	-0.09	-0.001	-0.09
RET_{-1}	0.36	1.47	-0.52	-1.80*	0.36	1.33	0.3626	1.43
M2B	-0.00	-1.88*	-0.00	-1.31	0.00	-0.91	-0.0022	-4.5***
LEV	-1.27	-2.11**	-1.11	-1.90*	-1.27	-1.86*	-1.2730	-1.92*
VOL	0.02	1.28	0.01	0.99	0.02	1.25	0.0156	1.28
_cons	1.16	-0.80	-2.53	-1.80	-1.16	-0.74	-1.1574	-0.77

Table A.6 Summary-Determinants of Total Long-term Compensation							
	GLS (Random Effect)		Fixed Effect		OLS		Robust	
	Coef.	*z-value*	*Coef.*	*z-value*	*Coef.*	*p-value*	*Coef.*	*z-value*
Board Composition								
BSIZE	0.04	0.84	0.05	1.15	0.04	0.82	0.0364	0.85
NEDs	1.05	1.14	1.05	1.13	1.05	0.95	1.0471	0.99
INDs	0.73	0.70	0.072	0.69	0.73	0.7	0.7276	0.73
DUAL	-0.68	-1.37	-0.72	-1.46	-0.68	-0.89	-0.6785	-0.97
NEDPAY	-0.07	-0.84	-0.07	-0.79	-0.07	-1.13	-0.0702	-1.17
CHAIRIND	0.29	1.73*	0.31	1.86*	0.29	1.95*	0.2852	1.98**
Remuneration Committee Composition								
RCSIZE	-0.11	-1.44	-0.12	-1.58	-0.11	-1.32	-0.1108	-1.36
RCIND	0.22	0.38	0.13	0.23	0.22	0.36	0.2171	0.37
RBDUAL	0.43	1.17	0.47	1.28	0.43	1.04	0.4301	1.1
RCTEN	0.02	0.49	0.01	0.45	0.02	0.37	0.0159	0.39
CEOs	0.72	1.90*	0.72	1.90*	0.72	2.38**	0.7221	2.43**
RCPAY	0.12	0.77	0.07	0.41	0.12	0.82	0.1188	0.86
Ownership Structure								
CEOOWN	-6.47	-2.76***	-6.14	-2.61***	-6.47	-1.92*	-6.4656	-2.11**
CHOWN	-4.67	-3.03***	-4.66	-3.02***	-4.67	-1.9*	-4.6659	-2.22**
INSOWN	0.42	0.61	0.22	0.31	0.42	0.6	0.4208	0.62
Control Variables								
CEOAGE	-0.04	-3.06***	-0.04	-2.97***	-0.04	-2.36**	-0.0388	-2.43**
CEOTEN	0.01	0.86	0.01	0.60	0.01	0.54	0.0128	0.56
TOTASSTs	0.53	5.99***	0.51	5.79***	0.53	5.7***	0.5275	5.93***
ROA_{-1}	0.01	1.14	0.01	0.95	0.01	0.83	0.0091	0.93
RET_{-1}	-0.04	-0.22	0.08	0.36	-0.04	-0.22	-0.0393	-0.23
M2B	0.00	0.04	-0.00	-0.16	0.00	0.01	0	0.04
LEV	-0.70	-1.59	-0.73	-1.65*	-0.70	-1.46	-0.7001	-1.5
VOL	0.00	0.32	0.00	0.48	0.00	0.29	0.0029	0.3
_cons	2.58	2.46***	2.86	2.69***	2.58	2.62***	2.5832	2.7***

Table A.7 Summary-Determinants of Total Compensation								
	GLS (Random Effect)		Fixed Effect		OLS		Robust	
	Coef.	*z-value*	*Coef.*	*z-value*	*Coef.*	*p-value*	*Coef.*	*z-value*
Board Composition								
BSIZE	0.04	3.50***	0.48	3.89***	0.04	3.12***	0.0425	3.21***
NEDs	0.81	3.17***	0.81	3.19***	0.81	2.92***	0.8148	3.02***
INDs	0.98	3.38***	0.99	3.42***	0.98	3.59***	0.9812	3.69***
DUAL	-0.24	-1.75*	-0.26	-1.89*	-0.24	-1.28	-0.2426	-1.38
NEDPAY	0.04	1.60*	0.04	1.58	0.04	2.03**	0.0375	2.11**
CHAIRIND	-0.01	-0.16	-0.00	-0.00	-0.01	-0.16	-0.0075	-0.17
Remuneration Committee Composition								
RCSIZE	-0.05	-2.49***	-0.58	-2.71***	-0.05	-2.61***	-0.0536	-2.67***
RCIND	-0.30	-1.89*	-0.34	-2.12**	-0.30	-1.88*	-0.3034	-1.96*
RBDUAL	0.01	0.08	0.017	0.16	0.01	0.08	0.0085	0.08
RCTEN	-0.02	-1.98**	-0.02	-1.96*	-0.02	-1.84*	-0.0180	-1.95*
CEOs	0.28	2.68***	0.29	2.72***	0.28	2.9***	0.2842	2.96***
RCPAY	0.25	5.74***	0.24	5.32***	0.25	4.65***	0.2482	5.04***
Ownership Structure								
CEOOWN	0.83	1.27	0.99	1.51	0.83	1.13	0.8328	1.27
CHOWN	-1.62	-3.77***	-1.62	-3.80***	-1.62	-2.63***	-1.6190	-3.02***
INSOWN	0.10	0.51	0.14	0.07	0.10	0.53	0.0972	0.54
Control Variables								
CEOAGE	-0.01	-1.68*	-0.01	-1.55	-0.01	-1.62	-0.0059	-1.66*
CEOTEN	0.02	4.46***	0.02	4.15***	0.02	3.94***	0.0186	4.07***
TOTASSTs	0.24	9.82***	0.23	9.56***	0.24	9.16***	0.2414	9.51***
ROA_{-1}	0.01	4.41***	0.01	3.86***	0.01	3.47***	0.0099	3.74***
RET_{-1}	-0.01	-0.29	-002	-0.26	-0.01	-0.31	-0.0145	-0.32
M2B	-0.00	-0.04	-0.00	-0.26	0.00	-0.13	0	-0.14
LEV	-0.57	-4.59***	-0.57	-4.67***	-0.57	-4.47***	-0.5651	-4.56***
VOL	-0.00	-0.12	0.00	0.29	0.00	-0.1	-0.0003	-0.11
_cons	3.96	13.5***	4.04	13.7***	3.96	13.9***	3.9614	14.5***

Appendix B:

Summary of the Second Model's Findings

TABLE B.1 Remuneration Consultants and CEO Salary									
	Clustering Robust Estimation		Pooled OLS Estimation		Huber-White's Estimation		Fixed Effect Estimations		GLS Estimations
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	z-value
USECON	0.1960	2.64*	0.21	3.08***	0.1960	2.74***	0.19	2.51*	0.20	2.8
NCONS	0.0231	1.76	0.0239	1.49	0.0231	1.46	0.02	1.89	0.02	1.49
OTHER	0.0766	7.46***	0.0828	2.96***	0.0766	2.75***	0.08	7.91***	0.08	2.8***
APPOINT	0.1184	2.62*	0.1203	4.45***	0.1184	4.4***	0.12	2.68*	0.12	4.49***
SPEC	-0.1001	-2.68*	-0.0942	-2.6***	-0.1001	-2.82***	-0.12	-3.33**	-0.10	-2.87***
MSHARE	-0.3348	-2.26*	-0.3812	-2**	-0.3348	-1.78*	-0.35	-2.21*	-0.33	-1.82*
USELEGAL	0.0219	1.17	0.0195	0.52	0.0219	0.59	0.01	0.42	0.02	0.6
SWITCH	0.0144	0.48	0.0179	0.47	0.0144	0.38	-0.01	-0.5	0.01	0.39
Control Variables										
B6	0.1258	9.98***	0.1231	3.93***	0.1258	3.97***	0.12	10.58***	0.13	4.07***
CEOAGE	0.0027	1.69	0.0028	1.28	0.0027	1.21	0.00	2.22*	0.00	1.23
CEOTEN	0.0084	2.94**	0.0086	3.68***	0.0084	3.66***	0.01	3.26**	0.01	3.78***
SIZE	0.2363	23.26***	0.2328	21.64***	0.2363	22.24***	0.23	22.85***	0.24	22.76***
ROA_{-1}	0.0062	3.81**	0.0061	2.89***	0.0062	2.98***	0.01	4.35**	0.01	3.16***
RET_{-1}	-0.1382	-2.44*	-0.1382	-3.51***	-0.1382	-3.57***	-0.09	-1.05	-0.14	-3.66***
M2B	0.0001	0.75	0	0.09	0.0001	0.07	0.00	0.02	0.00	1.14
LEV	-0.3846	-4.39**	-0.3754	-4.45***	-0.3846	-4.56***	-0.40	-4.39**	-0.38	-4.7***
VOL	0.0021	8.51***	0.0016	0.95	0.0021	1.24	0.00	14.97***	0.00	1.28
_cons	4.0183	30.63***	4.1723	28.1***	4.0183	25.11***	4.02	35.77***	4.02	25.68***

TABLE B.2 Remuneration Consultants and CEO Bonus									
	Clustering Robust Estimation		Pooled OLS Estimation		Huber-White's Estimation		Fixed Effect Estimations		GLS Estimations
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	z-value
USECON	-0.2988	-2.69*	-0.24	-1.24	-0.2988	-1.49	-0.33	-3.6**	-0.30	-1.52
NCONS	0.0695	1.07	0.0708	0.88	0.0695	0.86	0.09	1.29	0.07	0.88
OTHER	0.3396	2.23*	0.3488	1.87*	0.3396	1.81*	0.34	2.34*	0.34	1.84*
APPOINT	-0.0353	-0.11	-0.0324	-0.19	-0.0353	-0.21	-0.04	-0.11	-0.04	-0.21
SPEC	0.1823	1.37	0.1911	0.86	0.1823	0.81	0.15	1.31	0.18	0.83
MSHARE	-2.4940	-3.36**	-2.5629	-1.95*	-2.4940	-1.87*	-2.71	-3.5**	-2.49	-1.92*
USELEGAL	0.2722	2.23*	0.2687	1.28	0.2722	1.3	0.23	2.17*	0.27	1.34
SWITCH	0.074	0.58	0.0791	0.3	0.074	0.28	0.04	0.37	0.07	0.29
Control Variables										
B6	0.6017	3.42**	0.5976	3***	0.6017	3.01***	0.62	3.43**	0.60	3.08***
CEOAGE	-0.0015	-0.13	-0.0013	-0.1	-0.0015	-0.12	0.00	0.1	0.00	-0.12
CEOTEN	0.0262	2.57*	0.0264	1.88*	0.0262	1.87*	0.03	2.28*	0.03	1.93*
SIZE	0.3234	3.89**	0.3181	6.32***	0.3234	6.21***	0.32	3.59**	0.32	6.39***
ROA_{-1}	0.0282	2.12	0.0282	2.45**	0.0282	2.46**	0.02	1.48	0.03	2.59***
RET_{-1}	1.2496	4.04**	1.2497	4.98***	1.2496	4.97***	1.46	2.61*	1.25	5.09***
M2B	-0.0001	-0.21	-0.0001	-0.02	-0.0001	-0.02	0.00	-0.3	0.00	-0.27
LEV	-0.7207	-1.86	-0.7070	-1.65*	-0.7207	-1.7*	-0.76	-1.89	-0.72	-1.74*
VOL	-0.031	-1.76	-0.0317	-2.93***	-0.031	-2.88***	-0.03	-1.6	-0.03	-2.9***
_cons	3.0023	1.71	3.2313	3.88***	3.0023	3.25***	2.93	1.67	3.00	3.33***

TABLE B.3 Remuneration Consultants and CEO Total Short-Term Compensation									
	Clustering Robust Estimation		*Pooled OLS Estimation*		*Huber-White's Estimation*		*Fixed Effect Estimations*		*GLS Estimations*
	Coef.	*t-value*	*Coef.*	*t-value*	*Coef.*	*t-value*	*Coef.*	*t-value*	*Coef.*	*z-value*
USECON	0.0823	1.86	0.11	1.37	0.0823	0.98	0.07	1.48	0.08	1
NCONS	0.0271	1.15	0.0282	1.12	0.0271	1.08	0.03	1.47	0.03	1.1
OTHER	0.1072	4.41**	0.1151	2.6***	0.1072	2.43**	0.11	4.8***	0.11	2.47**
APPOINT	0.1202	2.36*	0.1227	3.05***	0.1202	3.04***	0.12	2.47*	0.12	3.1***
SPEC	-0.0607	-1.27	-0.0532	-0.96	-0.0607	-1.1	-0.09	-2.06	-0.06	-1.13
MSHARE	-1.0387	-7.57***	-1.0977	-3.72***	-1.0387	-3.5***	-1.10	-7.92***	-1.04	-3.59***
USELEGAL	0.0959	2.83**	0.0928	1.53	0.0959	1.6	0.07	2	0.10	1.65*
SWITCH	0.0382	1.66	0.0426	0.63	0.0382	0.56	0.00	0.09	0.04	0.58
Control Variables										
B6	0.2133	5.67***	0.2098	4.24***	0.2133	4.3***	0.22	5.84***	0.21	4.39***
CEOAGE	0.0004	0.23	0.0006	0.18	0.0004	0.12	0.00	0.83	0.00	0.12
CEOTEN	0.0116	2.95**	0.0118	2.74***	0.0116	2.74***	0.01	3.07**	0.01	2.85***
SIZE	0.2962	13.63***	0.2917	20.8***	0.2962	21.41***	0.29	12.98***	0.30	21.91***
ROA_{-1}	0.0112	4.99***	0.0111	3.19***	0.0112	3.27***	0.01	4.17**	0.01	3.53***
RET_{-1}	0.0118	0.15	0.0118	0.2	0.0118	0.21	0.10	0.78	0.01	0.21
M2B	0.0001	1.69	0.0001	0.12	0.0001	0.1	0.00	0.83	0.00	1.34
LEV	-0.5454	-9.5***	-0.5338	-4.4***	-0.5454	-4.51***	-0.57	-8.22***	-0.55	-4.64***
VOL	0.0005	0.2	-0.0001	-0.06	0.0005	0.19	0.00	0.66	0.00	0.2
_cons	4.2491	12.22***	4.4449	19.09***	4.2491	17.76***	4.24	13.82***	4.25	18.11***

TABLE B.4 Remuneration Consultants and CEO LTIPs									
	Clustering Robust Estimation		*Pooled OLS Estimation*		*Huber-White's Estimation*		*Fixed Effect Estimations*		*GLS Estimations*
	Coef.	*t-value*	*Coef.*	*t-value*	*Coef.*	*t-value*	*Coef.*	*t-value*	*Coef.*	*z-value*
USECON	1.0210	3.39**	0.93	2.31**	1.0210	2.53**	0.96	3.61**	1.02	2.59
NCONS	0.2856	1.65	0.2836	1.95*	0.2856	1.96*	0.28	1.65	0.29	2.01**
OTHER	0.4497	3.51**	0.4357	1.62	0.4497	1.62	0.48	3.86**	0.45	1.65*
APPOINT	0.2168	0.93	0.2124	0.8	0.2168	0.82	0.21	0.86	0.22	0.84
SPEC	0.2339	0.8	0.2206	0.64	0.2339	0.68	0.12	0.45	0.23	0.69
MSHARE	3.0955	2.87**	3.1998	1.96*	3.0955	1.93*	3.12	2.91**	3.10	1.98**
USELEGAL	-0.4682	-0.81	-0.4628	-1.35	-0.4682	-1.37	-0.54	-1.01	-0.47	-1.41
SWITCH	0.0467	0.19	0.0389	0.1	0.0467	0.12	-0.10	-0.6	0.05	0.13
Control Variables										
B6	-0.0562	-0.18	-0.05	-0.18	-0.0562	-0.2	-0.08	-0.24	-0.06	-0.21
CEOAGE	-0.0529	-2.52*	-0.0533	-2.33**	-0.0529	-2.31**	-0.05	-2.57*	-0.05	-2.36**
CEOTEN	0.0109	0.42	0.0105	0.33	0.0109	0.34	0.01	0.29	0.01	0.36
SIZE	0.5285	6.11***	0.5365	6.01***	0.5285	5.75***	0.51	6.11***	0.53	5.89***
ROA_{-1}	0.0332	1.8	0.0333	1.98**	0.0332	1.95*	0.03	1.73	0.03	2.16**
RET_{-1}	-0.3259	-1.3	-0.326	-0.93	-0.3259	-0.93	0.03	0.07	-0.33	-0.96
M2B	-0.0004	-0.42	-0.0004	-0.04	-0.0004	-0.04	0.00	-0.75	0.00	-0.61
LEV	-0.1155	-0.29	-0.1362	-0.2	-0.1155	-0.17	-0.20	-0.47	-0.12	-0.18
VOL	-0.024	-1.32	-0.0229	-1.47	-0.024	-1.55	-0.02	-1.27	-0.02	-1.62
_cons	3.4961	4.54**	3.1500	2.15**	3.4961	2.36**	3.56	5.03***	3.50	2.41**

TABLE B.5 Remuneration Consultants and CEO ESOs									
	Clustering Robust Estimation		*Pooled OLS Estimation*		*Huber-White's Estimation*		*Fixed Effect Estimations*		*GLS Estimations*	
	Coef.	*t-value*	*Coef.*	*t-value*	*Coef.*	*t-value*	*Coef.*	*t-value*	*Coef.*	*z-value*
USECON	0.4404	1.62	0.31	0.91	0.4404	1.28	0.52	1.8	0.44	1.32
NCONS	0.0679	0.46	0.0627	0.35	0.0679	0.38	0.06	0.35	0.07	0.39
OTHER	0.8853	3.69**	0.8482	3.07***	0.8853	3.13***	0.84	3.45**	0.89	3.18***
APPOINT	1.0810	4.74***	1.0692	3.23***	1.0810	3.21***	1.11	4.93***	1.08	3.27***
SPEC	-0.5633	-4.25**	-0.5989	-1.76*	-0.5633	-1.65*	-0.33	-2.96**	-0.56	-1.68*
MSHARE	-1.5003	-1.99	-1.2226	-0.65	-1.5003	-0.8	-1.48	-1.72	-1.50	-0.82
USELEGAL	-1.163	-4.9***	-1.148	-3.1***	-1.163	-3.17***	-1.01	-4.44**	-1.16	-3.3***
SWITCH	-0.1526	-0.66	-0.1733	-0.46	-0.1526	-0.41	0.07	0.61	-0.15	-0.42
Control Variables										
B6	0.468	1.93	0.4845	1.54	0.468	1.49	0.50	1.87	0.47	1.53
CEOAGE	0.0592	2.92**	0.0582	2.83***	0.0592	2.88***	0.05	2.29*	0.06	2.93***
CEOTEN	-0.0589	-2.11	-0.059	-2.69***	-0.058	-2.67***	-0.05	-1.83	-0.06	-2.7***
SIZE	0.4998	5.95***	0.5210	5.31***	0.4998	5.02***	0.53	6.05***	0.50	5.15***
ROA_{-1}	0.0158	1.02	0.0159	1.2	0.0158	1.21	0.02	1.71	0.02	1.28
RET_{-1}	0.9733	1.33	0.9730	3.2***	0.9733	3.24***	-0.16	-0.18	0.97	3.33***
M2B	-0.0019	-3.09**	-0.002	-0.25	-0.0019	-0.25	0.00	-2.8**	0.00	-3.2***
LEV	-1.3157	-2.39*	-1.3707	-1.6	-1.3157	-1.55	-1.14	-2.15*	-1.32	-1.63
VOL	0.0203	2.18*	0.0231	1.59	0.0203	1.45	0.02	1.62	0.02	1.48
_cons	-5.6271	-4.46**	-6.5490	-4.87***	-5.6271	-3.89**	-5.71	-3.74**	-5.63	-3.9***

TABLE B.6 Remuneration Consultants and CEO Total Long-Term Compensation									
	Clustering Robust Estimation		*Pooled OLS Estimation*		*Huber-White's Estimation*		*Fixed Effect Estimations*		*GLS Estimations*	
	Coef.	*t-value*	*Coef.*	*t-value*	*Coef.*	*t-value*	*Coef.*	*t-value*	*Coef.*	*z-value*
USECON	0.6625	1.42	0.6	1.74*	0.6625	2.01**	0.64	1.41	0.66	2.06
NCONS	0.1241	1.12	0.1222	1.06	0.1241	1.08	0.13	1.14	0.12	1.1
OTHER	0.1797	0.8	0.1667	0.85	0.1797	0.89	0.19	0.84	0.18	0.91
APPOINT	0.0426	0.43	0.0385	0.21	0.0426	0.23	0.04	0.44	0.04	0.24
SPEC	0.048	0.22	0.0356	0.16	0.048	0.21	0.01	0.07	0.05	0.22
MSHARE	-0.0412	-0.07	0.0557	0.05	-0.0412	-0.04	-0.09	-0.14	-0.04	-0.04
USELEGAL	-0.229	-0.55	-0.224	-0.75	-0.229	-0.77	-0.25	-0.63	-0.23	-0.8
SWITCH	0.1682	1.1	0.161	0.65	0.1682	0.68	0.12	0.81	0.17	0.7
Control Variables										
B6	0.251	1.42	0.2567	1.28	0.251	1.24	0.25	1.35	0.25	1.28
CEOAGE	-0.0356	-2.71*	-0.0360	-1.85*	-0.0356	-1.83*	-0.03	-2.71*	-0.04	-1.88*
CEOTEN	-0.0025	-0.08	-0.0028	-0.09	-0.0025	-0.08	0.00	-0.12	0.00	-0.09
SIZE	0.7010	10.72***	0.7084	11.86***	0.7010	11.88***	0.70	10.81***	0.70	12.19***
ROA_{-1}	0.0271	1.82	0.0272	1.66*	0.0271	1.64	0.03	1.71	0.03	1.84*
RET_{-1}	-0.2211	-3.04**	-0.2212	-0.88	-0.2211	-0.89	-0.14	-0.64	-0.22	-0.92
M2B	-0.001	-4.82***	-0.0007	-0.7	-0.001	-0.78	0.00	-4.96***	0.00	-3.55***
LEV	-0.8161	-1.78	-0.8353	-1.6	-0.8161	-1.57	-0.84	-1.82	-0.82	-1.61
VOL	-0.0007	-0.05	0.0003	0.03	-0.0007	-0.05	0.00	0.04	0.00	-0.06
_cons	2.4711	3.4**	2.1492	1.89*	2.4711	2.25**	2.47	3.37**	2.47	2.3**

	TABLE B.7 Remuneration Consultants and CEO Total Compensation									
	Clustering Robust Estimation		Pooled OLS Estimation		Huber-White's Estimation		Fixed Effect Estimations		GLS Estimations	
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	z-value
USECON	0.2026	4.15**	0.21	2.42**	0.2026	2.23**	0.19	4.11**	0.20	2.28
NCONS	0.0601	4.82***	0.0611	1.84*	0.0601	1.8*	0.07	5.5***	0.06	1.84*
OTHER	0.1507	2.94**	0.1579	2.78***	0.1507	2.63***	0.16	3.16**	0.15	2.68***
APPOINT	0.1411	2.53*	0.1434	2.6***	0.1411	2.55**	0.14	2.62*	0.14	2.61***
SPEC	-0.0672	-0.67	-0.0603	-0.8	-0.0672	-0.88	-0.10	-1.14	-0.07	-0.91
MSHARE	-1.1061	-3.53**	-1.159	-3.12***	-1.106	-2.98***	-1.18	-3.31**	-1.11	-3.06***
USELEGAL	0.0845	1.98	0.0817	1.02	0.0845	1.05	0.06	1.67	0.08	1.09
SWITCH	0.0681	1.15	0.0721	0.81	0.0681	0.77	0.02	0.49	0.07	0.8
Control Variables										
B6	B6	0.2679	5.12***	0.2647	4.05***	0.2679	0.27	4.81***	0.27	4.19***
CEOAGE	CEOAGE	-0.0091	-1.87	-0.0089	-1.78*	-0.0091	-0.01	-1.72	-0.01	-1.85*
CEOTEN	CEOTEN	0.0153	1.57	0.0155	2.31**	0.0153	0.01	1.55	0.02	2.41**
SIZE	SIZE	0.4232	14.44***	0.4191	22.52***	0.4232	0.42	14.22***	0.42	23.15***
ROA_{-1}	ROA_{-1}	0.0155	3.81**	0.0154	3.11***	0.0155	0.01	3.42**	0.02	3.5***
RET_{-1}	RET_{-1}	-0.079	-1.26	-0.079	-1.13	-0.079	0.02	0.16	-0.08	-1.16
M2B	M2B	-0.0001	-1.85	0	-0.04	-0.0001	0.00	-3.62**	0.00	-0.67
LEV	LEV	-0.772	-4.63***	-0.761	-4.74***	-0.772	-0.80	-4.64***	-0.77	-4.93***
VOL	VOL	0.0034	0.83	0.0029	0.77	0.0034	0.00	1.26	0.00	0.96
_cons	_cons	4.2094	9.3***	4.3883	14.21***	4.2094	4.20	10.14***	4.21	13.42***