Compensation consultants and CEO pay

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Abstract

The study examines the practice of employing multiple compensation consultants. Examining data of a sample of UK companies over the period 2003–2006 we find that CEOs receive higher equity-based pay when firms employ more than one compensation consultant. An increase in the number of compensation consultants is also associated with an increase in CEO equity-based pay, whereas no decline in CEO pay takes place when firms reduce the number of pay consultants. We also observe that the market shares of compensation consultant are positively related to CEO equity-based pay.

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1. Introduction

The adoption of compensation consultants in the executive pay setting process has become a widespread practice in the corporate world. These consultants are frequently hired by a firm's compensation/remuneration committee which is responsible for the design of Chief Executive Officer's (CEO) pay package. The consultants do not only offer advices on whether to pay with bonus, options, shares, etc., but also on how much each compensation component should be. On the one hand, they are viewed as provider of useful services and helping firms to achieve optimal compensation contracting (Conyon, Peck and Sadler, 2009). On the other hand, there is also a strand of literature that views pay consultants as helping firms to justify higher pay awards (Bebchuk and Fried, 2003). Looking from the critical management perspective, Ogden and Watson (2012) argue that pay consultants facilitate firms to attract and retain executives of the appropriate quality, experience and skills that are necessary to achieve business success for the firms.

Recent studies document that a vast majority of listed firms in the US and the UK employ compensation consultants. Interestingly, studies find that CEOs of these firms receive higher pay relative to those who do not employ any pay consultant (Conyon *et al.*, 2009; Murphy and Sandino, 2010; Cadman, Carter and Hillegeist, 2010; Goh and Gupta, 2010; Voulgaris, Stathopoulos and Walker, 2010; Armstrong, Ittner and Larcker, 2012). A notable phenomenon that remains unexplored is that many firms seek recommendations from not just one but several compensation consultants (Conyon *et al.*, 2009; Murphy and Sandino, 2010). While studies have put forward conflicting arguments about the role of compensation consultants, none has explicitly investigated (primarily because of lack of publicly available data) how firms' CEOs have benefited from employing more than one compensation consultant. The main purpose of our study is to conduct an empirical investigation of this

question. This is an intriguing issue knowing that these consultants do not come cheap. The study also explores how CEOs of firms have benefited from employing compensation consultant with large market shares.

We examine compensation consultants employed by a sample of UK listed firms. Our study is of particular interest because each and every firm in our sample uses at least one pay consultant and more than half of these firms employ multiple consultants. Although prior studies (e.g. Cadman *et al.*, 2010; Conyon *et al.*, 2009; Voulgaris *et al.* 2010) have examined whether firms with compensation consultants pay their CEOs more relative to those who do not employ any pay consultant, we are not aware of any study that has specifically investigated the practice of employing multiple compensation consultants.

Another distinct feature of our study is that we analyze data covering several consecutive years (2003–2006) whilst prior studies have examined compensation consultant data for only one year [Goh and Gupta (2010) is the only exception]. In contrast to US firms which had to disclose consultant related information with effect from December 2006, UK firms started providing this information several years earlier. We also examine how CEO pay changes when firms decide to increase or reduce the number of consultants from one year to another.

A number of important findings emerge from our analysis. First, we observe significantly higher equity-based pay for CEOs of firms that rely on more than one compensation consultants. These findings hold after controlling for firm, corporate governance and CEO characteristics. Second, we find that an increase in the number of compensation consultants is associated with an increase in equity-based compensation. But, there is no corresponding decline in CEO compensation when firms reduce the number of pay consultants. Third, we

find that the market share of compensation consultants is positively related to client firm's CEO pay.

One may be tempting to argue that pay consultants may have intentionally advised towards higher CEO pay in order to secure their business interests with the client firm. Alternatively, higher CEO pay may also reflect the unintended outcome of competition among pay consultants. However, it is also important to understand the complexities of the pressures and processes confronting pay consultants in the determination of CEO pay. The critical management perspective indicates that advising towards higher pay could be a beneficial strategy to facilitate firms to secure executives of the appropriate quality, experience and skills. Furthermore, equity-based pay such as stock options can be efficient in matching managerial pay and ability (Arya and Mittendorf, 2005). Therefore, the observed increase in equity-based compensation in the presence of multiple consultants may suggest that pay consultants were competing in facilitating firms to attract executives with the right talents by advising towards higher equity-based pay.

The remainder of this paper is structured as follows. Section 2 reviews relevant studies and outlines two research questions. Section 3 describes the research method which is then followed by description of data in Section 4. Section 5 presents the empirical results of the study. Section 6 discusses the findings of the study.

2. Literature Review

2.1. The number of compensation consultants and CEO pay

Murphy and Sandino (2010) find that 17% of US firms use two or more compensation consultants. Conyon *et al.* (2009) report that while the majority of US firms use only one

compensation consultant, UK firms often use more than one pay consultant. Goh and Gupta (2010) confirm that more than 40% of UK firms employ two or more consultants during a reporting year. None of these studies has explicitly investigated how firms' CEOs have benefited from employing more than one compensation consultant.

Although there is no legal requirement for firms to disclose the costs of employing compensation consultants, anecdotal evidence suggests that these consultants do not come cheap. British press reported that consultants charged about £500 - £800 an hour for their services.¹ Murphy and Sandino (2010) observe that the average pay consulting fee paid in 2006 for a sample of Canadian companies was almost US\$90,000. If a consultant does not come cheap, then the astounding question is: why some firms use two or more pay consultants? How firms benefit from employing multiple pay consultants?

The practice of employing compensation consultants has been under academic scrutiny for many years (Wade, Porac and Pollock, 1997). The role of compensation consultants can be analyzed in the context of three theoretical perspectives on executive pay, namely: efficient or optimal contracting theory, rent extraction or managerial power theory, and resource dependency theory. According to the efficient or optimal contracting view, compensation consultants provide expert advice and useful information that help the Board of Directors to design an optimal structure of executive compensation so that greater manager-shareholder interest alignment can take place (Conyon *et al.*, 2009). In this context, the compensation consultant is deemed to act in the best interest of shareholders. Some researchers view that compensation consultants provide independent recommendations and a variety of pay related proprietary information to firms. Using the efficient contracting view of executive pay,

¹ For example, see, 'Get me an above-average pay consultant', The Mail on Sunday (February 6, 2005), and 'Pay consultants are next in line for a pummelling', The Sunday Times (March 8, 2009).

Conyon *et al.* (2009) argue that consultants can help remuneration committees to design an appropriate level and structure of CEO compensation that can align the interests of CEOs with those of shareholders.

Bender (2011) suggests that firms benefit from employing multiple consultants because different compensation consultants specialize in different aspects of pay. The following excerpt from the Annual Report (2005) of Aggreko plc illustrates the argument: "...Towers Perrin provided remuneration with respect to basic salary, bonus plans and executive long-term incentive plans. New Bridge Consultants provided advice on the implementation and administration of share plans. Mercer Human Resource Consulting provided advice on retirement benefits in the UK and overseas and administers the UK defined-benefit pension scheme." Bender (2011) also observes that the management team and the remuneration committee of a firm may not be advised by the same pay consultant which means more than one consultant may give their views on the same aspect of pay to help different parties within the firm determining an optimal level of executive pay.

On the other hand, according to the rent extraction or managerial power view (Bebchuk and Fried, 2003), compensation consultants have strong incentives to help CEOs in receiving higher pay in order to ensure continuity of the consultants' business relationships with client firms. This view holds if CEOs can use their power to select and appoint those consultants who looked after their personal welfare. Such rent extraction behavior is plausible when Board of Directors operates under the influence of CEOs (Hermalin and Weisbach, 1998).

Further, Crystal (1991) observes that whenever a CEO is paid above the average, the company will be under pressure to provide a justification of it. Wade *et al.* (1997) argue that a

firm's remuneration committee will usually validate high levels of executive compensation by citing a compensation consultant as an advisor in the pay-setting process. It follows that firms can create even a better impression to the outside world when they demonstrate that the decision on CEO compensation has been made diligently by seeking advice from different consultants. Likewise, one may also argue that employing multiple compensation consultants can provide better camouflage for CEOs to extract rent through higher pay without having to experience public outrage. Anecdotal evidence also indicates that remuneration committees favor seeking advice from several compensation consultants in order to find the highest rate of pay for CEOs.²

However, Ogden and Watson (2012) argue that the managerial power arguments may have significant limitations in conceptualizing the role of pay consultants. There is a potential that pay consultants may not be sensitive to the expectations of shareholders about pay decisions. Adopting the resource dependency theory, Ogden and Watson (2012) posit that pay consultants can facilitate firms' remuneration consultants to attract and retain executives with the required talents to run the underlying firms successfully. They observe that although remuneration committees were anxious to adopt a conservative approach towards executive pay, they were also eager to ensure that CEOs receive compensation that is consistent with external benchmarks. The compensation consultants typically brought in benchmarking data on pay to advise client firms' remuneration committees.

Based on 1992–1995 data of 199 large UK companies, Ezzamel and Watson (2002) find that the benchmarking process (facilitated by compensation consultants) has resulted in a 'bidding-up' of CEO pay. The bidding up of CEO pay may not necessarily provide a negative

² The Sunday Telegraph (Jan. 4, 2004): 'UK companies splurge on pay consultants'.

connotation in the presence of competition among firms for managerial talents. The financialization literature on pay suggests that equity-based pay such as stock options are efficient in matching managerial pay and talent. For example, Arya and Mittendorf (2005, p. 189) suggest that, “If a manager wants to overstate his worth to the firm, he must naturally also overstate the firm’s worth with him at the helm. As a result, the firm offers a generous package of stock options in lieu of cash for assertions of high ability. Since both the likelihood of option exercise and firm value in the event of exercise are tied to managerial ability, only a gifted manager takes such a gamble.” Taking the resource dependency theory and financialization perspective in combination may imply that there can be a tendency for pay consultants to advise their client firms towards offering higher equity-based pay for CEOs. Therefore, it is interesting to investigate whether CEOs receive higher compensation when firms employ multiple pay consultants.

2.2. Market share of compensation consultants and CEO pay

Whilst some studies suggest that compensation consultants can help firms in designing optimal pay contracts for CEOs (Conyon *et al.*, 2009) or assist firms in attracting CEOs with required talents (Ogden and Watson, 2012), other studies acknowledge the fact that compensation consultants do not act independently and suffer from severe conflicts of interests (Bebchuk and Fried, 2003; Cadman *et al.*, 2010; Murphy and Sandino, 2010). They tend to pursue CEOs’ interests especially when they are under the impression that CEOs can influence the decision to hire them as in the case when firms’ boards are captured by CEOs (Hermalin and Weisbach, 1998).

Compensation consultants also provide various non-compensation related lucrative services to firms (Bebchuk and Fried, 2003; Cadman *et al.*, 2010; Murphy and Sandino, 2010). These

services include providing consultancy on human resource management, internal control, insurance, financial and risk management. Logically, consultants compete for both compensation and non-compensation related businesses. But, conflicts of interests arise when compensation consultants aim to secure additional (non-compensation related) businesses with the client firm. Apart from seeking additional businesses, they would want to ensure the continuity of pay consulting business with the existing client firm. Obviously, there is a continuing pressure on them to 'win work'. Because of the fear of losing pay consulting business to other entrants, these consultants are in essence betrothed in a competition. Among firms employing only one compensation consultant, there is an inherent rivalry from other consultants to attract new business opportunities whereas among firms with multiple consultants, the contest is also towards retaining the existing business. In the presence of competition, they are careful not to displease client firm CEOs especially when they were under the impression that these CEOs can influence the decision to hire them (Crystal, 1991).

Studies also report that compensation consultants cannot advise openly and critically on CEO pay. Crystal (1991) observes that if a consultant's recommendation does not cause the CEO to earn more money, the consultant risks losing business with the client firm. Similarly, Bebchuk and Fried (2003) argue that a recommendation from compensation consultant that displeases a CEO may risk the consultant's future relationships with the firm. The prospect of lucrative business interests incentivize compensation consultants to compete intensely with each other.³ Although Bebchuk and Fried (2003) do not explicitly mention competition among pay consultants, the prediction that an incumbent consultant might lose business to other

³ It is also logical to expect that competition among consultants is greater in firms employing multiple consultants than in firms employing a single consultant. For example, if a firm employs two or more consultants at a time, it is relatively less costly for the firm to fire a consultant and transfer its business/job to another consultant. In case of a firm employing one consultant, it has to incur searching cost to find a new consultant to replace a terminated consultant. The potential searching cost facing a firm with single consultant would create less competitive environment for such consultant.

consultants implicitly refers to the presence of competition. To ensure their continuity in business, the incumbent consultants need to recommend CEO pay to a level higher than that could possibly be recommended by other competing consultants.

Therefore, the second line of inquiry we intend to pursue is the following: if all consultants are expected to be competing with each other in order to increase their market shares by proposing higher CEO pay for their clients' firms, we would then observe that higher CEO compensation is associated with those consultants with larger market shares.

3. Research Methods

3.1. *The number of compensation consultants and CEO pay*

To address the first research question, we initially perform a bivariate analysis and examine the simple relationship between compensation consultants and CEO compensation. Firms are classified according to the total number of compensation consultants used. For each category of firms, we then examine the level of CEO compensation. This descriptive analysis provides an overview of whether CEO compensation increases when the number of compensation consultants employed by a firm increases.

Then we proceed to a multivariate analysis that controls for a variety of firm-specific, CEO-specific and corporate governance determinants of pay (Conyon *et al.*, 2009; Murphy and Sandino, 2010; Cadman *et al.*, 2010). First, we investigate if the use of multiple compensation consultants is associated with higher CEO pay. We estimate an Ordinary Least Squares (OLS) regression model which is written as follows:

$$\begin{aligned}
 & Pay_{jt} \\
 &= \alpha + \beta_1 Con_{jt} + \sum_2^n \beta_n Controls_{jt} + \lambda_j + \delta_t + \varepsilon_{jt}
 \end{aligned}
 \tag{1}$$

As a robustness check, we also perform panel data regressions to supplement the analysis of pooled OLS regressions. The dependent variable Pay_{jt} in (1) above refers to compensation received by the CEO of company j at time t . It is defined in several ways. One is the total annual compensation which is made up of the following components: salary, bonus, benefit⁴, pension increment, and values of stock grants and stock option grants. The pension increment is derived from the difference between the actuarial values of defined benefit pension from two consecutive years. The value of stock grants is measured as the value of the equity discounted at 20% to reflect its performance-contingent character. The Black-Scholes-Merton value of stock option is employed to approximate the value of stock options. The other ways of defining Pay_{jt} are by considering the amount of equity-based compensation (the value of stock grants and stock option grants) as well as variable compensation (sum of bonus, shares and stock option grants, and pension increment).⁵ The explanatory variable Con_{jt} is the total number of compensation consultants used by firm j at time t . As a robustness check, we also use another approach whereby a dummy variable is constructed that equals one if a firm uses two (three) or more consultants, and zero otherwise.

We use a variety of control variables that are commonly found in the literature to be the key determinants of executive compensation. These include firm characteristics (firm performance, firm size), CEO characteristics (age, tenure) and corporate governance characteristics (institutional ownership, CEO duality, board size, non-executive directors, size of remuneration committee). All these variables are defined in the Appendix. For ease of comparison with prior studies, we use annual stock return as the measure of firm performance

⁴ This refers mainly to benefits such as car allowance and insurance premium paid on behalf of CEOs.

⁵ The results from variable pay are similar to those of total pay. Therefore, these results are not reported in the paper but are available from the authors upon request.

(Brick *et al.*, 2006).⁶ The regression analysis also includes additional controls for industry (λ_j) and year (δ_t). The remaining term in specification (1), ε_{jt} , is an idiosyncratic error term.

3.2. Market share of compensation consultants and CEO pay

Our second research question is concerned with the association between compensation consultant's market share and CEO pay. The estimated regression model is written as follows:

$$\begin{aligned} Pay_{jt} \\ = \alpha + \beta_1 MarketShare_{jt} + \sum_2^n \beta_n Controls_{jt} + \lambda_j + \delta_t + \varepsilon_{jt} \end{aligned} \quad (2)$$

As before, the variable Pay_{jt} refers to the compensation received by the CEO of firm j at time t . The explanatory variable $MarketShare_{jt}$ represents the market share of a compensation consultant. The correct procedure to compute market share is to relate one firm with one consultant. This is because when firms use multiple consultants, it is not obvious which consultant has the greatest influence in determining CEO compensation. Therefore, we perform the empirical analysis using those firms that employ only one compensation consultant. Market share is estimated as the number of client firms served divided by the total number of compensation consulting contracts in the market.⁷ To assess the robustness of empirical results, we also identify the two leading compensation consultants (on the basis of market share greater than 10%) and estimate their isolated effects on CEO compensation. Similar to previous regression analysis, specification (2) also includes various firm, CEO and corporate governance characteristics as control variables.

⁶ We also use another performance variable, return on assets, as part of robustness check. It is calculated as the ratio of earnings before interest and taxes to total assets.

⁷ A better proxy to estimate market share could be to use the amount of fees received from the compensation consulting business. Unfortunately, this type of proprietary information is not publicly available in the UK. Instead, we assume that the fee is proportional to client firm's sales and create an alternate, albeit less precise, proxy variable by multiplying the initially estimated market share by sales.

4. Data

With the introduction of Directors' Remuneration Report Regulations in 2002, UK listed firms are required to disclose the name of entity that provides advice or service in the executive pay setting process. This information is hand-collected from company annual reports. We obtain a sample of 251 non-financial UK FTSE 350 firms covering the period 2003–2006. We find that all but six companies with the available data employ at least one compensation consultant during these years. Due to non-availability of annual reports, mergers and acquisitions, etc., the final sample comprises 175 companies. The sample firms are spread over several industrial sectors. The largest number of companies (68 firms) belongs to the manufacturing sector, followed by transportation & communication sector (20 firms) and wholesale & retail trade sector (19 firms).

Detailed CEO compensation data are also hand-collected from the director remuneration report section of firms' annual reports. This process involves collection of information on almost all disclosed components of CEO compensation: salary, bonus, stock grants, option grants, pension and other benefits. Data on CEO characteristics and governance variables are also hand-collected from annual reports, while those on firm characteristics are collected from *Datastream*.

The descriptive statistics of the variables are presented in Table 1. Firm level statistics are presented in Panel A while those on compensation consultants are presented in Panel B. There are 700 observations related to 175 companies covering the four-year period 2003–2006. The mean (median) CEO annual compensation is £1.94 million (£1.40 million). The average equity-based compensation (stock and option grants) is about £0.73 million, representing

about 38% of total pay. When cash bonus and pensions are added with equity-based pay, the average CEO variable compensation increases to £1.36 million. This is about 70% of total compensation.

(Insert Table 1 here)

The average annual stock return for sample firms is 14% (median is 17%). Sales, which is a measure of firm size, have an average (median) of £4.4 billion (£1.3 billion). Firm risk is measured by the volatility of monthly stock returns. We find that the average volatility of stock returns during the four years is equal to 33% (median 32%). Each firm in the sample employs at least one compensation consultant. We observe that, on average, there are two compensation consultants per firm. One firm used up to eight compensation consultants. Examining the board of directors, we find that the average UK firm has 10 board members. The median firm has equal number of executives and non-executives. The Board of the retail company Morrisons had no non-executive member in 2003. Every sample firm has a remuneration committee. The average firm has four members in this committee.⁸ The average CEO is 53 years old and has worked as CEO in the company for six years.

The frequency distribution of pay consultants used by sample firms is presented in Panel B of Table 1. We observe that 311 (44.4%) firm-years have one compensation consultant whilst the rest 389 (55.6%) use multiple compensation consultants. Of those firms employing more than one pay consultant, we find that 29.0%, 16.1%, 7.6% and 2.9% of firms use two, three, four and more than four consultants, respectively. Our findings are similar to Conyon *et al.* (2009) who find that 28% of their sample firms use two compensation consultants and 16% use three consultants. Voulgaris *et al.* (2010) report that one-third of FTSE 100 and one-quarter of FTSE 250 firms in a reporting year employ multiple compensation consultants.

⁸ The remuneration committee of Morrisons consists of three executive members. Diageo had eight remco members in 2004 and 2006.

Goh and Gupta (2010) also confirm that the use of multiple consultants has become a common practice in the UK. In a comparative analysis, Conyon *et al.* (2009) observe that most US firms use only one pay consultant.

We count the total number of compensation consultants used by sample firms in the UK and find that these firms have employed 83 different compensation consultants during the four-year period. A similar pattern is documented by Goh and Gupta (2010) who report more than 70 different consultants in the UK, and by Murphy and Sandino (2010) who document 72 different consulting firms in the USA. While most firms use the same number of pay consultants each year, some firms also change their consultants from one year to another. We observe that during 2003–2006 an increase in the number of consultants took place in 93 cases, whereas a decline occurred in 82 cases.

(Insert Table 2 here)

Although a large number of compensation consultants provide services to client firms, the market is quite concentrated as only a few consultants have dominated the industry. Panel B of Table 1 shows the six leading executive compensation consultants used in the UK. These are the consultants with more than five per cent market share. The most frequently used consultant is the New Bridge Street. It captures about 17.9% of the total pay consulting contracts, followed closely by its rival consultant, Towers Perrin (15.1%). The rest are Mercer (7.6% each), Monks (6.9%), Watson Wyatt (6.4%) and Deloitte (6.4%).⁹ These six leading consultant firms take up about 60.3% of the total compensation consulting businesses in the UK. With the exception of Deloitte, similar big five consultants are identified in the UK by Conyon *et al.* (2009). According to Murphy and Sandino (2010), the big six consultants in the US include Towers Perrin, Mercer, Watson Wyatt and Deloitte, and capture more than two-

⁹ New Bridge Street joined with Hewitt in 2008 to form Hewitt New Bridge Street whereas Towers Perrin merged with Watson Wyatt in 2009 to form Towers Watson.

thirds of the total pay consulting contracts offered in 2006. Cadman *et al.* (2010) also document a similar picture. The Herfindahl index, calculated as the sum of the market shares squared, is 0.073. It confirms a high degree of competition facing the pay consulting business.

5. Results

5.1. *The number of compensation consultants and CEO pay*

In analyzing the relationship between multiple compensation consultants and CEO compensation, we first perform a simple bivariate analysis. The sample firms are categorized according to the number of compensation consultants used and the average (median) pay is then calculated for each category. The results are presented in Table 2 (Panel A).

For firms employing only one compensation consultant, the average CEO total compensation is £1.658 million (median = £1.239 million). When firms with two consultants are considered, we observe an increase, albeit statistically insignificant, in total pay (mean = £1.779 million, median = \$1.391 million). The positive trend in CEO pay with an increase in the number of pay consultants continues further. The median CEO total compensation increases to £1.583 million when firms use three different consultants instead of two consultants. The change is statistically significant (z-statistic = 2.19). A statistically significant increase in CEO equity-based and variable pay is also observed when firms use three different consultants instead of two consultants. When firms using more than four consultants, the mean total pay significantly increases to £4.071 million (t-statistic = 1.80) whereas the median CEO pay significantly increases to £3.615 million (z-statistic = 2.04). A statistically significant increase in CEO salary is also observed when firms use more than four compensation consultants.

In Panel B of Table 2, we look at the year-to-year change in compensation consultants and the associated change in CEO compensation. For 350 firm-years, there is no increase or decrease in the total number of consultants firms used. We do not find a significant change in annual compensation when the total number of consultants used by a firm remains the same. We also find that when a firm adds an additional consultant (as in the case of 93 firm-years), the average (median) total compensation increases by 8.5% (4.4%). Both equity-based pay and variable pay show a significant increase and there is a significant increase in the median of salary too. On the other hand, when firms reduce the number of compensation consultants (as in the case of 82 firm-years), there is no statistically significant change in CEO compensation.

Next, we perform multivariate regression analysis to examine if the level of annual compensation changes when firms employ multiple pay consultants.¹⁰ The natural logarithm of equity-based and total compensation of CEOs are used as the dependent variables. The main explanatory variable is the total number of compensation consultants used by a firm.¹¹ We first run regressions using the natural logarithm of the total number of consultants and present the results in Table 3. As an alternate to this continuous variable, we use indicator variables that are equal to one for firms with two, three or more consultants, and zero otherwise.¹²

(Insert Table 3 here)

The results show that the use of multiple consultants is significantly related to equity-based compensation. The regression coefficients of the variable representing the total number of

¹⁰ Before we perform the regressions, we estimate the correlation coefficients among key variables. Overall, the estimated correlations are relatively small. We check for the possibility of serious multicollinearity problem and find that it is negligible (the variance inflations factors in the regression estimations are much less than 10). The correlation matrix is available upon request.

¹¹ The use of proportions of variable pay and equity pay mix as the dependent variable does not materially change our results. Examining whether CEO compensation is lower for firms without consultants is not meaningful here because we find only six FTSE350 non-financial firms did not use pay consultant. These six firms were excluded from our sample.

¹² Because these results are not different from those presented in the paper, we do not report them.

compensation consultants (i.e., ‘consultants’ variable) are positive and statistically significant for both pooled regression (column 1) and the random effects regression (column 2).¹³ The results indicate that equity-based compensation increases as the number of pay consultants increases.

When total compensation is used as the dependent variable, the results of which are presented in columns (3) and (4), we observe that although the estimated coefficients of the ‘consultants’ variable are positive, these are statistically insignificant. In unreported regressions, we also examine variable compensation and find a similar result. On the basis of these findings, we conclude that the practice of employing multiple consultants is associated with significantly higher equity-based compensation. It can be gathered from Table 1 earlier that the average equity-based pay (£0.73 million) represents a significant portion (38%) of average total pay (£1.94 million). This pay component is made up of stock grants and stock options for which its values tend to vary more across firms than the values of other pay components, hence requires firms to seek advices from more than one consultant in order to make informed decisions.

The above relationship between CEO compensation and the total number of compensation consultants employed by a firm is examined using a variety of control variables representing firm, corporate governance and CEO characteristics. Many of these variables exhibit statistically significant effects in the expected direction. For example, we find that variables like stock return (a measure of firm performance) and firm size positively affect CEO pay. These are indeed a stylized fact documented in the executive compensation literature

¹³ The result of Hausman test shows that the random effects model rather than the fixed effects model is more appropriate for the data we use.

(Cadman *et al.*, 2010; Murphy and Sandino, 2010; Brick *et al.*, 2006).¹⁴ We find that the coefficients of board size are significantly positive. The result suggests that firms with larger boards pay their CEOs more. The finding is consistent with the argument that a larger board is less effective and more susceptible to the influence of the CEO (Coles, Daniel, and Naveen, 2008). We also observe that CEO duality has a significant influence on lowering executive compensation. This is not surprising because the incidence of CEO duality is common among founder-CEO managed firms in the UK. We find that the longer a CEO holds the position in a firm, the higher is the pay. The finding is consistent with the literature because CEO with a longer tenure is rewarded with higher pay for possessing more valuable human capital (Brick *et al.*, 2006).

The analysis above involves estimations with the total number of compensation consultants employed by a firm. We next examine whether CEO compensation is related to change in the number of pay consultants. We therefore split the sample into three categories of firms representing increase, decrease and no change in the number of pay consultants from one year to another. These different categories are estimated as individual dummy variables (dummy equals one if there is an increase, decrease, or no change in the number of consultants used, and zero otherwise). The estimated regression results are presented in Table 4.

(Insert Table 4 here)

We observe that an increase in the number of consultants leads to an increase in both CEO equity-based compensation (columns 1 and 2) and total compensation (columns 3 and 4). The estimated coefficients of the variable called as ‘increase in consultants’ are positive and statistically significant. Interestingly, we also observe that when firms reduce the number of pay consultants, there is no corresponding reduction in CEO pay. In unreported regressions,

¹⁴ Sales are commonly adopted in studies to proxy for firm size (Conyon *et al.*, 2009; Murphy and Sandino, 2010). There is no change in the results when total assets is used as another proxy for firm size.

we take the first differences of several explanatory variables and also obtain consistent findings. The results presented here complement the earlier findings reported in Table 3 showing that the use of multiple compensation consultants is associated with an increase in CEO equity-based pay.¹⁵

5.2. Market share of compensation consultants and CEO pay

We now proceed to examine the empirical relation between the market shares of compensation consultants and the client firm's CEO pay. Table 5 reports these results.¹⁶ Pooled regression results examining equity-based compensation and total compensation are presented in columns (1) and (3). We observe that the regression coefficients of the market share variable are positive and statistically significant. The random effects regressions results presented in columns (2) and (4) show that the coefficients of market share variable are still positive, but not significant. The statistical significance of these coefficients may well be underestimated due to the use of a small unbalanced panel dataset (i.e., 311 firm-years).

(Insert Table 5 here)

The results document some evidence that greater market share of compensation consultants is associated with higher client firm's CEO pay. The rent extraction theory indicates that pay consultants have a strong incentive to serve the interest of CEOs in order to retain their pay consulting business with client firms. The likelihood of losing business with the client firm is greater if the compensation consultant does not act in favor of the CEO when they were under the impression that the CEOs can influence the decision to hire them. Therefore, one may

¹⁵ In a robustness analysis, we examine if an increase or decrease in the number of pay consultants is related to percentage change in annual compensation. These results are quite similar, and therefore, are not presented separately. We also examine if an arriving pay consultant relates to an increase in CEO pay. Focusing on firms employing one consultant, we observe that only 40 firm-years experience a change in pay consultant. Although the estimated regression coefficients of the change in consultant variable are positive, these are statistically insignificant, perhaps due to the small number of observations.

¹⁶ As mentioned earlier, the market share of compensation consultant is calculated using firms with only one consultant. This procedure, on the one hand, allows to clearly identify the share of each consultant; on the other hand, it leads to a reduction in the number of firm-year observations (311). The regressions reported here include the statistically significant control variables only.

argue that consultant will advise for higher CEO pay in order to maintain or even increase its market share. This implies that client firm's CEO pay moves in tandem with the market share of pay consultant (as indicated in Table 5). As Bebchuk and Fried (2003) have argued:

“Providing advice that hurts the CEO's pocketbook is hardly a way to enhance the consultant's chances of being hired in the future by this firm or, indeed, by any other firms”.

We perform an additional analysis whereby the effects of two leading pay consultants (New Bridge Street and Towers Perrin) are isolated.¹⁷ Dummy variables are used to identify each consultant. As before, firm, corporate governance and CEO-specific control variables are included in the regressions. The results are presented in Table 6. Columns (1) and (4) show results for New Bridge Street while columns (2) and (5) for Towers Perrin. We also estimate regressions using specifications that include both consultants jointly (columns 3 and 6).

(Insert Table 6 here)

The main finding from Table 6 is that CEO pay is significantly higher when the client firm receives advice from New Bridge Street and Towers Perrin. Most of the estimated consultant dummy coefficients are positive; only two coefficients are statistically insignificant. If compensation consultants compete by way of advising towards greater pay for the client firm's CEO, it is unsurprising to observe this tendency of leading consultants being associated with greater CEO pay.¹⁸ Anecdotal evidence also provides support to this finding: “...there is a clear link between companies with controversial remuneration practices and their pay consultants...A recent survey found that, together with its larger US rival Towers Perrin, New Bridge had effectively cornered the market...”¹⁹

¹⁷ We restrict to two pay consultants because the market shares of other consultants are below 10% and these are used by a smaller number of firms.

¹⁸ The model specifications used here implicitly assume that both New Bridge Street and Towers Perrin get employed by firms with similar firm characteristics.

¹⁹ The Mail (February 6, 2005): ‘Get me an above-average pay consultant’.

One can argue that larger firms that normally pay their CEOs more tend to employ compensation consultants with greater market share. We therefore examine the choice of the two leading compensation consultants (i.e. Towers Perrin and New Bridge Street) by using the logistic regression approach. The results show that firms which pay their CEOs more tend to employ Towers Perrin and New Bridge Street, but there is no statistical support for the conjecture that larger firms mostly receive recommendations from these two leading consultants.²⁰

5.3. Additional robustness analysis

The empirical findings presented above on the association of CEO pay with compensation consultants and their market shares may be subject to the endogeneity problem. The number of compensation consultants can be an endogenous choice variable that most likely depends on factors like firm size, firm risk, remuneration committee members, etc. Similarly, the market share of compensation consultants and CEO pay can be simultaneously determined. The consequence is that the results reported so far could be biased. Many studies use the two-stage least squares (2SLS) regression method to tackle the endogeneity issue (e.g. Sun *et al.*, 2009). Therefore, we conduct a new analysis using the number of compensation consultants and their market share as endogenous variables, and estimate the following two-equation system:

$$\begin{aligned}
 &End.Var._{jt} \\
 &= \alpha + \sum_1^m \beta_m IV_{jt} + \sum_m^n \beta_n Controls_A_{jt} + \lambda_j + \delta_t + \varepsilon_{jt} \\
 &Pay_{jt} = \alpha + \beta_1 End.Var._{jt} + \sum_2^n \beta_n Controls_B_{jt} + \lambda_j + \delta_t + \varepsilon_{jt} \quad (3)
 \end{aligned}$$

²⁰ Results are available from the authors upon request.

At first, we consider the number of compensation consultants as an endogenous choice variable and explain it by using factors like firm size, firm risk, size of the remuneration committee and CEO characteristics like age and tenure. The fitted values of the consultant variable are then used to explain CEO compensation. Two variables: size of the remuneration committee and firm risk are used as instrumental variables.²¹ The CEO compensation regression includes other control variables like stock return, board size and CEO duality. As before, we analyze both equity-based compensation and total compensation.

The estimation results are presented in Table 7 (columns 1 – 3). The first column explains the firm's choice of number of consultants. The regression result shows that larger and more risky firms are the ones which employ multiple consultants. Firms with larger remuneration committees also seek advice from higher number of pay consultants. On the other hand, firms with higher institutional share ownership and higher tenure of CEOs tend to have lesser number of compensation consultants. Columns (2) and (3) present the second-stage results of equity and total compensation. We observe that the coefficient of compensation consultant variable is positive and statistically significant. The results also show that the multiple consultant variable is significantly related to both equity-based and total CEO compensation. These new results reinforce our conclusion that CEO pay increases when firms rely on a higher number of compensation consultants.

(Insert Table 7 here)

In the second part of the analysis, we examine if CEO compensation is related to the market share of consultants. The first-stage regression considers market share as the endogenous variable; the predicted values are then used in the second-stage to explain CEO pay. Columns (4) to (6) of Table 7 exhibit the results. We find that market share is significant positively

²¹ The OLS results presented earlier in Tables 4-7 indicate that these two variables are not significantly related to CEO compensation.

related to equity-based compensation and total compensation of CEOs. The 2SLS results are consistent with those obtained earlier from pooled and random effects regressions.

The positive relationship between CEO pay and the number of compensation consultants or their market shares could be driven by the firm's compensation contract itself. Firms with higher CEO pay contract may need to hire more compensation consultants and high reputation consultants (i.e., those with large market shares) for higher CEO pay justification. Therefore, we perform a robustness check by including lagged CEO pay in the first-stage regressions. Although the lagged analysis reduces the number of observations (and statistical significance), the main finding remains qualitatively similar to previous analyses.²²

6. Discussion and Conclusions

Compensation consultants are central to the CEO pay setting process but their role is currently understudied worldwide. Conyon *et al.* (2009) and Cadman *et al.* (2010) proclaim that little scientific evidence exists about the influence of compensation consultant on executive pay. Three competing views on the role of compensation consultants are presented both in the media as well as in the academic literature. On the one hand, compensation consultants are regarded as professional experts. They help firms to achieve optimal contracting by offering a valuable service without which executive compensation cannot be appropriately designed. On the other hand, the managerial power perspective asserts that compensation consultants do not act independently of the influence of firm's executives. Consultants are assumed to have strong incentives to advocate higher executive pay in order to enhance their chance of being hired in the future by the client firm for both pay and non-pay related services. Critics thus argue that by providing favorable advice, pay consultants help ratcheting up executive pay.

²² Results are available from the authors upon request.

However, according to the critical resource dependency theory, the bidding up of CEO pay may not necessarily harm shareholders' interests in the presence of competition for managerial talents.

Availability of data on compensation consultants has created a growing interest among academics to investigate the influence of compensation consultants on CEO pay. A few studies show that CEOs of firms that use compensation consultants receive higher pay relative to those who do not employ a consultant. The interesting issue that has not yet been examined is: why did some firms use two or more pay consultants? How firms benefit from employing multiple pay consultants and consultants with large market shares?

To address these research questions, an original hand-collected dataset of UK firms for the period 2003–2006 is analyzed. We find that almost all UK firms in our sample seek recommendations from compensation consultants, and the majority of the sample firms use multiple pay consultants. We gather from the literature that firms use two or more pay consultants in order to help them to better justify higher CEO pay in their effort to attract or retain CEOs with the required talents to run the firms successfully. The positive relation between the number of pay consultants and CEO equity-based pay documented in our study lends support for this conjecture because equity-based pay such as stock options has been recognized in the literature as an efficient mechanism in matching managerial pay and talent. The findings from both bivariate and multivariate analyses suggest that CEOs have benefited by means of securing higher equity-based pay from employing multiple pay consultants.

Our study also demonstrates that firms' CEOs have benefited in a similar way by employing compensation consultant with larger market shares. This is particularly true for two

consultants with the largest market shares (i.e. New Bridge Street and Towers Perrin). In unreported additional analysis, we find that firms that pay higher compensation to CEOs (but not necessarily larger firms) tend to choose consultants with larger market shares. Although some scholars may argue that compensation consultants might have intentionally advised towards higher CEO pay in order to secure their business interests with client firms, we would rather view this finding as the unintended outcome of competition among compensation consultants. In this regard, it is important to explore the complexities of the pressures and processes confronting pay consultants in the determination of CEO pay instead of fuelling a “blame game”.

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Appendix. Variable definitions

Variable Name	Definitions
<i>CEO compensation</i>	
Total compensation	The sum of salary, bonus, benefit, defined-benefit pension increment, the value of restricted stock grant and stock option grant.
Equity-based compensation	The sum of the value of restricted stock grants and stock option grants.
Variable compensation	The sum of bonus, pension increment, the values of restricted stock grants and stock option grants.
<i>Compensation consultants</i>	
Consultants	The natural logarithm of the total number of compensation consultants.
Market share	The number of compensation consulting contracts a consulting firm has secured divided by the total number of compensation consulting contracts in the market.
<i>Firm characteristics</i>	
Stock return	The natural logarithm of change over the financial year of a firm's dividend adjusted share price index.
Firm size	The natural logarithm of sales.
Firm risk	The standard deviation of annualised monthly stock return over prior 120-months.
<i>Governance characteristics</i>	
Board size	The natural logarithm of total number of directors on the board.
Non-executives	The number of non-executive directors divided by the number of executive directors.
RemCo Size	The natural logarithm of total number of remuneration committee members.
Institutional ownership	The percentage of total institutional ownership that is greater than three per cent.
CEO duality	A dummy variable that equals one if the CEO is also the chair of the Board, zero otherwise.
<i>CEO characteristics</i>	
CEO age	The natural logarithm of CEO age.
CEO tenure	The natural logarithm of the number of years the CEO has held the position of CEO at the firm.

Table 1. Descriptive statistics**Panel A: Firm-level statistics**

	Mean	Median	Min.	Max.	St. dev.
Total compensation (£m)	1.94	1.40	0.15	22.79	1.85
Equity-based compensation (£m)	0.73	0.37	0.00	20.37	1.31
Variable compensation (£m)	1.36	0.89	0.00	21.93	1.69
Stock return	0.14	0.17	-2.29	1.03	0.29
Sales (£mil)	4,405	1,331	20	155,000	11,900
Firm risk	0.33	0.32	0.01	0.94	0.12
No. of compensation consultants	2	2	1	8	1
No. of board members	10	10	5	21	2
Non-executives/executives ratio	2	1	0	8	1
No. of RemCo members	4	4	2	8	1
Institutional ownership	0.27	0.21	0.00	0.74	0.14
CEO age (years)	53	54	31	69	6
CEO tenure (years)	6	4	1	34	6

The panel reports the descriptive statistics of variable for the sample of 175 non-financial UK firms.
The sample period is from 2003 to 2006 (700 firm-years). All variables are defined in the Appendix.

Panel B: Compensation consultant statistics

	2003	2004	2005	2006	Total firm-years	% of total
Number of consultants						
1	82	76	76	77	311	44.4
2	50	53	49	51	203	29.0
3	28	25	31	29	113	16.1
4	11	13	17	12	53	7.6
5 or more	4	8	2	6	20	2.9
Total	175	175	175	175	700	100.0
Name of the consultant						
New Bridge Street	55	64	60	68	247	17.9
Towers Perrin	57	54	51	46	208	15.1
Mercer	28	28	26	23	105	7.6
Monks	30	26	19	20	95	6.9
Deloitte	20	23	23	23	89	6.4
Watson Wyatt	23	21	22	23	89	6.4
Others	120	140	146	143	549	39.7
Total	333	356	347	346	1382	100.0

Table 2. Compensation consultants and CEO pay**Panel A: Number of consultants and CEO pay (£000)**

	Salary	Equity-based compensation	Variable Compensation	Total Compensation
	<u>One consultant (N = 311)</u>			
Mean	488	544	1120	1658
Median	440	313	751	1239
St. dev.	190	796	1145	1314
	<u>Two consultants (N = 203)</u>			
Mean	521**	624	1199	1779
Median	468**	396	879	1391
St. dev.	207	959	1258	1461
	<u>Three consultants (N = 113)</u>			
Mean	538	985**	1675**	2274*
Median	503	524**	999**	1583**
St. dev.	182	2159	2421	2513
	<u>Four consultants (N = 53)</u>			
Mean	595*	1221	2026	2673
Median	558	594	1454	2046
St. dev.	252	1857	2552	2752
	<u>More than four consultants (N = 20)</u>			
Mean	741**	1811	3222	4071*
Median	773**	1107	2563	3615**
St. dev.	238	1868	2940	3020

Panel B: Changes in the number of consultants and CEO pay

	Change in Salary	Change in Equity-based Compensation	Change in Variable Compensation	Change in Total Compensation
	<u>No change in the number of consultants used (N = 350)</u>			
Mean	0.003	0.002	0.006	0.007
Median	0.004	0.001	0.005	0.016
St. dev.	0.012	0.123	0.135	0.152
	<u>Increase in the number of consultants used (N = 93)</u>			
Mean	0.005	0.065***	0.075***	0.085***
Median	0.005*	0.011***	0.024***	0.044***
St. dev.	0.009	0.304	0.310	0.320
	<u>Decrease in the number of consultants used (N = 82)</u>			
Mean	0.005	-0.009	-0.002	0.008
Median	0.004	0.008	0.013	0.025
St. dev.	0.008	0.344	0.344	0.346

The table reports mean, median and standard deviation of CEO compensation. Panel A presents compensation for firms categorized according to the number of consultants used. Panel B presents percentage change in compensation associated with change / no change in the number of consultants used. The sample consists of 175 non-financial UK firms during 2003–06.

* Statistical significance at 10% level.

** Statistical significance at 5% level.

*** Statistical significance at 1% level.

Table 3. The number of compensation consultants and CEO pay

Variable	Equity-based compensation		Total compensation	
	Pooled regression	Random effects regression	Pooled regression	Random effects regression
	(1)	(2)	(3)	(4)
Intercept	-2.010*	-1.363	2.531***	2.693 ***
	(0.071)	(0.352)	(0.000)	(0.000)
Consultants	0.303*	0.342*	0.051	0.043
	(0.083)	(0.072)	(0.416)	(0.538)
Stock return	0.944***	0.838***	0.281***	0.249 ***
	(0.001)	(0.002)	(0.001)	(0.001)
Firm size	0.155*	0.178*	0.186***	0.181 ***
	(0.060)	(0.078)	(0.000)	(0.000)
Board size	2.331***	1.870***	0.801***	0.776 ***
	(0.000)	(0.001)	(0.000)	(0.000)
Non-executives	-0.107	-0.131	0.072***	0.029
	(0.404)	(0.0389)	(0.005)	(0.315)
Institutional ownership	-0.011	-0.005	-0.014***	-0.009 *
	(0.048)	(0.606)	(0.001)	(0.059)
CEO duality	-1.189***	-0.989**	-0.494***	-0.451 ***
	(0.003)	(0.050)	(0.000)	(0.000)
CEO tenure	0.15	0.279***	0.093***	0.098 ***
	(0.115)	(0.006)	(0.000)	(0.001)
Adj. R ²	0.11	0.14	0.31	0.44

The table presents the results for pooled and random effects regressions. The dependent variables are CEO equity-based compensation and total compensation, expressed in the natural logarithm of their values. The sample consists of 175 non-financial firms during 2003–06 (700 firm-years). All variables are defined in the Appendix. The p-values are reported in parentheses.

* Statistical significance at 10% level.

** Statistical significance at 5% level.

*** Statistical significance at 1% level.

Table 4. Changes in compensation consultants and CEO pay

Variable	Equity-based compensation		Total compensation	
	Pooled regression (1)	Random effects regression (2)	Pooled regression (3)	Random effects regression (4)
Intercept	-0.152 (0.540)	0.170 (0.414)	0.209 (0.408)	0.239 (0.266)
Increase in consultants	0.053* (0.104)	0.058** (0.039)	0.066** (0.053)	0.069*** (0.021)
Decrease in consultants	-0.012 (0.741)	-0.013 (0.704)	-0.002 (0.960)	-0.005 (0.895)
Lag compensation	-0.079*** (0.008)	-0.078*** (0.008)	-0.110*** (0.000)	-0.109*** (0.000)
Stock return	0.085** (0.036)	0.180** (0.055)	0.112*** (0.014)	0.102** (0.028)
Firm size	0.019** (0.016)	0.019*** (0.010)	0.027*** (0.001)	0.025*** (0.001)
Board size	0.047 (0.223)	0.047 (0.261)	0.073* (0.076)	0.078* (0.082)
Non-executives	-0.001 (0.973)	0.001 (0.921)	-0.003 (0.802)	-0.001 (0.904)
Institutional ownership	-0.001 (0.217)	-0.002* (0.088)	-0.001 (0.328)	-0.001 (0.229)
CEO duality	-0.060*** (0.009)	-0.062*** (0.010)	-0.084*** (0.001)	-0.089*** (0.001)
CEO tenure	0.001 (0.709)	0.001 (0.731)	0.003 (0.251)	0.003 (0.265)
Adj. R ²	0.05	0.05	0.09	0.09

The table presents the results for pooled and random effects regressions. The dependent variables are CEO equity-based compensation and total compensation, expressed in the natural logarithm of their values. The sample consists of 175 non-financial firms during 2003–06. Calculating year-to-year change in compensation consultant results in 525 firm-year observations. All variables are defined in the Appendix. The p-values are reported in parentheses.

* Statistical significance at 10% level.

** Statistical significance at 5% level.

*** Statistical significance at 1% level.

Table 5. Market share of compensation consultants and CEO pay

Variable	Equity-based compensation		Total compensation	
	Pooled regression (1)	Random effects regression (2)	Pooled regression (3)	Random effects regression (4)
Intercept	1.520 (0.269)	1.530 (0.426)	4.796*** (0.000)	4.451*** (0.000)
Market share	0.156** (0.025)	0.125 (0.115)	0.041*** (0.005)	0.017 (0.311)
Non-executives	0.371** (0.032)	0.383* (0.059)	0.130*** (0.000)	0.076 (0.117)
Institutional ownership	0.016 (0.290)	-0.000 (0.960)	-0.008*** (0.004)	-0.010*** (0.000)
CEO duality	-1.328** (0.033)	-1.358* (0.052)	-0.240 (0.143)	-0.096 0.551
Firm size	0.230*** (0.009)	0.229* (0.078)	0.159*** (0.000)	0.185*** (0.000)
Adj. R^2	0.08	0.08	0.25	0.23

The table presents the results for pooled and random effects regressions. The dependent variables are CEO equity-based compensation and total compensation, expressed in the natural logarithm of their values. The market share of a consultant is estimated by considering firms with only one consultant (311 firm-year observations). All variables are defined in the Appendix. The p-values are in parentheses.

* Statistical significance at 10% level.

** Statistical significance at 5% level.

*** Statistical significance at 1% level.

Table 6. The two largest compensation consultants and CEO pay

Variable	Equity-based compensation			Total compensation		
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	-2.028 (0.248)	-1.172 (0.508)	-1.558 (0.376)	3.315*** (0.000)	3.669*** (0.000)	3.592*** (0.000)
New Bridge Street	0.545* (0.074)		0.703** (0.025)	0.048 (0.514)		0.141* (0.052)
Towers Perrin		0.575 (0.179)	0.808* (0.069)		0.429*** (0.000)	0.476*** (0.000)
Firm size	0.101 (0.376)	0.062 (0.594)	0.072 (0.533)	0.119*** (0.000)	0.100*** (0.000)	0.102*** (0.000)
Board size	2.445*** (0.000)	2.248*** (0.002)	2.194*** (0.002)	0.857*** (0.000)	0.719*** (0.000)	0.709*** (0.000)
Non-executives	0.376* (0.062)	0.360* (0.078)	0.395** (0.047)	0.109*** (0.000)	0.114*** (0.000)	0.121*** (0.000)
Institutional ownership	-0.011* (0.603)	-0.004 (0.860)	0.004 (0.867)	-0.013* (0.065)	-0.006 (0.379)	-0.004 (0.538)
CEO duality	-1.115** (0.049)	-1.179 (0.037)	-1.123** (0.037)	-0.263* (0.088)	-0.279** (0.049)	-0.268** (0.049)
CEO tenure	-0.360*** (0.008)	-0.389*** (0.004)	-0.345*** (0.011)	0.084*** (0.004)	0.084*** (0.004)	0.093*** (0.001)
Adj. R^2	0.14	0.14	0.15	0.32	0.37	0.38

The table presents the results for pooled regressions. The dependent variables are CEO equity-based compensation and total compensation, expressed in the natural logarithm of their values. The sample includes firms with only one consultant (311 firm-year observations). The two largest consultants (New Bridge Street and Towers Perrin) are identified based on their market shares and expressed as dummy variables. All variables are defined in the Appendix. The p-values are in parentheses.

* Statistical significance at 10% level.

** Statistical significance at 5% level.

*** Statistical significance at 1% level.

Table 7: Estimation results controlling for the endogeneity of multiple compensation consultants and consultant market share

Variable	Multiple compensation consultants			Compensation consultant market share		
	OLS	2SLS		OLS	2SLS	
	Multiple consultants	Equity-based pay	Total pay	Consultant market share	Equity-based pay	Total pay
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	-1.438*** (0.000)	-0.817 (0.386)	4.062*** (0.000)	-5.687 (0.168)	-0.602 (0.796)	2.252*** (0.000)
Consultants		1.201** (0.032)	0.546*** (0.001)			
Market share					0.429* (0.065)	0.113** (0.029)
Stock return		1.119*** (0.000)	0.334*** (0.001)	0.338 (0.562)		
Firm size	0.092*** (0.00)				0.025 (0.853)	0.074** (0.021)
Firm risk	0.993*** (0.000)			-3.542** (0.012)		
Board size		2.384*** (0.000)	1.239*** (0.000)		2.091*** (0.002)	0.885*** (0.000)
RemCo size	0.286*** (0.000)			-0.556 (0.257)		
Non-executives					0.416** (0.042)	0.118*** (0.000)
Institutional ownership	-0.015*** (0.000)			-0.117*** (0.000)		
CEO duality		-1.205*** (0.002)	-0.464*** (0.000)	-1.012* (0.061)		
CEO tenure	-0.032* (0.092)			-0.240* (0.078)		
CEO age	0.250 (0.116)			1.142 (0.277)		
Adj. R ²	0.13	0.09	0.17	0.03	0.08	0.28

The table presents the regression results where the estimation method is two-stage least squares estimation (2SLS). The OLS columns represent the results of the first stage regression. The sample period is from 2003 to 2006 with 700 firm-year observations used for Columns 1 - 3 and 311 firm-year observations used for Columns 4 - 6. All variables are defined in the Appendix. The p-values are in parentheses.

* Statistical significance at 10% level.

** Statistical significance at 5% level.

*** Statistical significance at 1% level.