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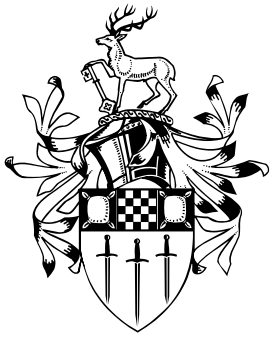

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ARE PERFORMANCE CONDITIONS ON EXECUTIVE OPTIONS DRIVEN BY FUNDAMENTALS

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Are Performance Conditions on Executive Options Driven by Fundamentals?

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Abstract

A special feature of UK executive pay is the heavy reliance on performance conditions for executive share options. Using data compiled from 2002-2003 Remuneration Committee reports of 130 of Britain's largest companies as well as linked data on analyst earnings forecasts and realised earnings, this paper computes probabilities of Britain's CEOs meeting their performance conditions and how much this varies across firms. Our main findings are that there is not that much cross-company variation in how tough performance conditions are, though there are some outliers. We also find that the probability of meeting the target depends on certain fundamental variables such as the number of non-executive directors, salaries of the chairs of the remcom committees, CEO tenure, CEO base pay and CEO notice periods. While most of the variables have the same sign as expected from theory, the statistical relations are weak. Overall, our results provide some support that good corporate governance leads to tougher targets for CEOs but at the same time the weakness of these links suggests that there is still much room for improvement.

Keywords: Executive Pay; Performance Conditions; Probabilities
JEL classification: J33; J44; G30; G38

1. Introduction

High executive pay and its alleged lack of connection with underlying company performance continues to receive widespread media attention. Despite the efforts of public policy which came mainly in the form of recommendations on corporate governance in the Cadbury Report (Cadbury 1992) and the Greenbury Report (Greenbury 1995) with the objective of bringing in line the interests of company executives with that of shareholders, a clear empirical pay-performance relationship in the UK remains elusive. An important development following the publication of the Cadbury report was a better disclosure of information on executive pay in the companies' annual reports and also the establishment of special remuneration committees for setting executive pay. Yet, the empirical literature on the pay-performance puzzle that followed those new government guidelines still remained inconclusive.

Indeed, studies which were able to disaggregate total pay in the form of fixed

salary, bonus and share options found a significant but weak relationship between the variable component of pay and various accounting measures (see for example (McKnight and Tomkins 1999), (McKinght 1996), (Main, Bruce and Buck 1996)). In contrast, studies which use a narrower definition of pay find a weaker relationship with pay and accounting measures such as, shareholder-return and earnings-per-share which are of interest to the shareholder ((Main, Bruce and Buck 1996), (Gregg, Machin and Symanski 1992)). (Conyon 1997) and (Conyon and Leech 1994) find a statistically significant but economically weak relationship between pay and performance. The US literature finds that most of the incentive effects of total pay occur through share options, but total incentive effects are sufficiently small that an additional unit of profit for the company leads to only about 0.3% increase in CEO pay (see in particular (Jensen and Murphy 1990) and the literature review in (Murphy 1999)).

There has been a general consensus that the Cadbury Report did not go far enough in making companies disclose more information on executive pay. Amongst other things, (Conyon, Gregg and Machin 1995) make a strong case for full disclosure in the public domain of information on various pay types and they also argue for the disclosure of targets or benchmarks which companies use to reward executives. The very recent addition to the government guidelines relating to executive-pay called "The Directors' Remuneration Report Regulation 2002" covers more ground on information disclosure in that it establishes a new section in the companies' annual reports called "The Remuneration Report" which contain all the necessary information on executives rewards and any targets or conditions related to those awards. This paper aims to assess this new information.

The latest annual reports published by the first half of 2003 contain a new chapter on executive remuneration with explicit information on pay. Indeed, a detailed list of award types, their levels and the conditions for obtaining awards and also the members of the remuneration committee (remcom hereafter) and their salaries are all reported. Using this new information we approach the pay-performance issue from a different angle.

Indeed, while the majority of the literature on pay-performance relationship is concerned with levels of pay and their connection with company performance, our objective in this paper is to examine conditions that are targeted by the remcoms and we put to test the viability of those conditions. In the first instance we discuss the types of targets remcoms use to incentivize their executives. We then concentrate on share-options which is an instrument that is commonly used to provide incentive for executives to improve the long-term performance. Interestingly, 60% of the firms in our sample use conditions for the vesting of share options that are common across companies. This performance condition is the achievement of a certain accumulated growth in earnings-per- share over three years that would make the share options award exercisable.

This common use of earnings per share targets is due to the influence of successive generations of Association of British Industries (ABI) guidelines which among other things recommend the use of earnings per share growth targets. The 2001 ABI guidelines restrict most options with a value of up to four times earnings provided there are earnings per share (EPS) targets relative to a peer group or a benchmark over a three year period. The ABI guidelines also allow for options up to eight times earnings provided that EPS targets are in the upper quartile of FTSE100. Main (2002) analyses the ABI guidelines in a stylized model. He finds that in some cases particularly onerous performance conditions associated with the eight times earnings case actually lead to a weaker relationship between pay and performance because these conditions are quite unlikely to be met.

This paper takes an alternative approach and uses actual remuneration data and analyst forecasts to assess how difficult performance conditions are in practice and how they relate to economic fundamentals. We also assess how wide cross-company differences are in the toughness of performance conditions.

The intuition for there to be differences in results is straightforward. The remcoms set the required target of accumulated growth in EPS and interestingly it differs by firm but even if the EPS target did not differ by firm, the volatility of EPS growth differs that will cause the strength of the targets to differ as well. The fact that there can be some variance of performance targets that does not depend closely on our remuneration data, because performance targets are based on means and do not take into account variances, their impact can vary dramatically across companies unless offsetting parameters are adjusted. We illustrate this basic point with a model in Section 2. However, in practice we find that there is not that large a difference in how difficult performance targets are to achieve. This may mean that companies use other information in addition to expected growth rates in setting performance targets.

In Section 3 we turn to our remuneration report data and subsequently in Section 4 caculate the probabilities of meeting the growth target in EPS for measuring the toughness of targets set by the remcoms. We use analysts forecast for EPS and company-specific historical surprises in EPS to extrapolate these probabilities. We then find the relationship of our toughness-of-target measure with the fundamentals of the companies. We find two noticeable results. First that the current targets chosen by the remcom are such that the executives in our sample, on average, have a 45% chance of satisfying the target. Second, the toughness of the targets was found to be only weakly related to governance variables and other fundamentals. Both our findings suggest there is still some room for improvement in the design of targets by remcoms. In Section 5 we augment the model to account for selection bias using the (Heckman 1979) procedure. Finally, Section 6 concludes.

2. A Simple Model and Intuition

In this section we illustrate the basic features of performance conditions based on EPS growth in which earnings per share growth varies across companies. For illustrative purposes it is useful to assume normality of EPS growth. The probability that EPS-growth, y, exceeds the target EPS-growth, y^* ,is assuming normality:

$$\Pr(y \geq y^*) = \Pr(z \geq z^*) \tag{1}$$

$$z^* = \frac{y^* - \bar{y}}{\sigma_y} \tag{2}$$

where, z, y^*, $\bar{y}$, σ_y denote the standard normal variable, the accumulated nominal growth in EPS over the three years targeted by the remcoms, the expected growth over three years and the standard deviation in EPS growth respectively. Typical targeted nominal EPS-growth over three years are the sum of the three-year expected inflation and the three-year accumulated real EPS growth chosen by the remcoms(see Table1) and have the form:

$$y^* = 3E(\text{inflation}) + 3(\text{Real growth in EPS set by remcoms}) \tag{3}$$

where we assume that expected inflation to be 2.5% per annum.

The probabilities and therefore the toughness of targets in Eq. (1) are exactly a function of z^* in Eq. (2) and therefore σ_y and $\bar{y}$ and not just y^* influence the difficulty of meeting targets. But σ_y and $\bar{y}$ vary considerably across firms! Consider two firms: one with z^* of 0.26 then the probability of meeting the target is roughly 40% whereas if z^* of 0.038 then the probability is over 48%. These values of z^* indeed correspond to 20th and 80th percentiles of the companies in our sample. And indeed our more detailed analysis below will confirm that there is not that much variation in probabilities of meeting targets.

3. Data and Sources

The primary data has been gathered from two accounting sources. The first source is the latest (or 2002-2003) "remuneration reports" in the annual reports of 130 of Britain's largest companies. Some company reports were published in December 2002 and others in March 2003. From this source we gathered data on the main focus of this study that is on the conditions which remcom set for achieving short and long term awards. By short-term awards we mean the yearly bonus and by long-term award we mean the share-options which typically vest after three years once the vesting conditions are met. The remuneration reports also provide data on the composition of the remuneration committee, the salary of each member of the committee, the people who attend the remcom meetings and those who provide them with advice. We also collect data on the notice

periods for the executives and the tenure of the current CEO. The second source is information from Reuters where we find information on the included companies. More specifically, we use average analyst forecasts for two years into the future of various accounting measures and also information on over and underpredictions of the various accounting measures for the latest accounting period and also the year before that.

The companies sampled are from the FTSE100 on 10/07/03. We also included in our analysis 30 more companies which originate from FTSE 350 in 19/08/03. We chose these 30 companies to enhance our sample to improve the statistical analyses. The additional 30 companies which were selected to be part of the sample are companies which are among the largest companies outside the FTSE100 and also have share targets used by remcoms to incentivize long-term pay that are similar to the EPS targets used by over half (53) of FTSE100 companies.

Table 1. Descriptive Information for 130 Companies

Variable	Mean 2002/2003	Min 2002/2003	Max 2002/2003
Base Salary Conditions	no target	na	na
Conditions for bonus	Corporate results and personal objectives	not specified	not specified
Share options conditions*	6% real growth in EPS	0%	30%
Tenure of CEO	5.5 years	0.5 years	34 years
Remcom Chair Salary	£45,000	£20,000	£160,000
Average Salary of Remcom	£35,000	£19,000	£67,000
Number of Remcom Members	5	2	10

* Based on 83 companies with pure earnings per share targets

Table 1 provides descriptive information on those 83 companies that use pure EPS targets in our sample of 130 companies. There are a few noticeable points. First, the base salaries do not have any incentives attached to them. All the remcoms report that the base salary is chosen on the basis of the size of the company and salaries proposed by the competing companies. Second, the target variables used for incentivizing short-term rewards (i.e., the bonus) were only listed in remuneration reports without eluding to the exact nature of those conditions. For example, the majority of the remuneration reports state that the directors have to achieve personal objectives set by the remcom and some other objectives in terms of growth in profits and other accounting variables to achieve the bonus. What those personal objectives are, and the exact levels of growth in accounting-measures which will satisfy the remcom, are not reported. Third, share-options were the only reward on which extensive information has been made available. Indeed, the levels of awards granted each year and the exact nature of the performance conditions required for the vesting of options after three years are

discussed in detail. It turns out that the remcoms of 53 companies in FTSE100 set conditions which exclusively target average cumulative 'real' growth in EPS over three years. For example in Table 1, the average growth in EPS in excess of inflation required by remcoms over three years for 82 companies with pure earnings per share target is 6% with a maximum of 30% and a minimum of 0%. This detailed information on share-options allows us to measure the toughness of this performance condition and whether it is correlated with other fundamentals of the company. Share-options are not the only tool that are used to incentivize for the long term. About half of FTSE100 firms use awards in the form of performance shares. However, these are usually subject to multiple conditions making their inclusion in our sample trickier. Consequently, we concentrate on firms which use share-options with a common target so that our results have comparability and homogeneity.

Turning now our attention to the second source of data, we use data on analysts' forecast on EPS for two years following the publication of the annual reports i.e. for 2003 and 2004. Along with these we require the data on expectational errors in EPS that is the extent to which average forecasts of EPS deviated with the average values reached for 2002. We used data on the expectational errors (denoted as historical surprises in Table 2) for 2001 from Reuters. This data will the basis for estimating the toughness of conditions for vesting of share-options across firms. In Table 2 we present the summary statistics on the data on EPS.

Table 2. Descriptive Information for 130 Companies on Earning Per Share

Variable	Mean	High	Low
Average Forecast EPS $_{2003}$	£35	£148	£-8
Average Forecast EPS $_{2004}$	£40	£163	£0.23
Average Forecast Growth in EPS $_{2002\text{-}03}$	5%	71%	-55%
Average Forecast Growth in EPS $_{2003\text{-}04}$	11%	84%	-13%
Historical Surprises in EPS $_{2002}$	1.58%	24%	-33%
Historical Surprises in EPS $_{2001}$	1.61%	204%	-82%

In Table 2 we report summary statistics of forecasts on the levels and the growth in EPS and historical expectational errors over the past two years for 130 companies. The histrocial surprises are computed as the percentage difference there is between the average analysts' EPS level (growth) estimate and the actual EPS level (growth) at end of a given period.

4. Modelling Strategy

With the available information on share option designs, we concentrate on estimating the toughness of the conditions set by the remcoms. As explained previously, the performance conditions for share options are set out for three years at the end of which the remcom compares actual performance with the performance required by the preset conditions. We estimate the toughness of conditions by extrapolating the probabilities in three years of achieving conditions set by remcom. Lower probabilities of hitting the target would imply that conditions are challenging given current information. Once we have estimated the probabilities, we try to explain them by correlating them with various company characteristics in a series of regression analyses.

To recall from above (Eqs. 1 2 3), the probability that EPS-growth, y, exceeds the target EPS-growth, y^* is:

$$\Pr(y \geq y^*) = \Pr(z \geq z^*) \tag{4}$$

$$z^* = \frac{y^* - \bar{y}}{\sigma_y} \tag{5}$$

In order to compute the probabilities we need to compute all the parameters in Equations (4). We have already presented in Equation (3) the formula for computing the *targeted* nominal EPS-growth over three years, i.e., y^*. We now discuss the computation of the remaining parameters

Firstly, Equations (6) show our estimations of the expected cumulative growth in EPS over the 3 years, $\bar{y}$, after which options may become exercisable.

$$\begin{aligned} \bar{y}_a &= [(1+m1)(1+m2)(1+0.5(m1+m2)]^{1/3} - 1 \\ \bar{y}_b &= [(1+m1)(1+m2)(1+m2)]^{1/3} - 1 \\ \bar{y}_c &= [(1+n1)(1+n2)(1+0.5(n1+n2)]^{1/3} - 1 \end{aligned} \tag{6}$$

We consider two ways of computing the expected growth in EPS. The first two involve analysts' mean forecasts of nominal growth in EPS. The third involves analysts' median forecasts. Let's examine each in turn.

To calculate the cumulative growth over three years we need to compute the growth in EPS that would occur in the three years after the date of the grant of the share options. Suppose that the option was granted in year, t, we proxy the growth in EPS the first year, i.e. $t+1$, by taking the average of the highest and the lowest growth in EPS forecasted by analysts for period $t+1$, we call this $m1$. Growth in EPS for period $t+2$ is proxied by the taking the average of the highest and the lowest EPS-growth forecasted by the analysts for the second year, $m2$. The growth forecast for the third year, $m3$, is not available, as a result we proxy it by either taking the average growth forecasts of the previous two years or by assuming that growth in the third year would be the same as the forecasted

growth in year two (these are given by the first two equations in (6). The second way of estimating expected growth is by looking at the forecast median growth by the analyst for the first two years,($n1$ and $n2$) and then using an average of these median growths for the final year, $m3$. Irrespective of how we compute the expected growth for each of the three years, the computation for 'the expected cumulative growth in EPS' is done by computing the geometric average of the growth in EPS as in Eq. (6) It turns out that the choice of our measure for cumulative growth does not affect our results since the correlations between, y_a, y_b, y_c are all close to 0.95.

The second parameter we need to estimate is σ_y^i which is the standard deviation of EPS-growth for the ith company. Using the portfolio theory approach we start by assuming that the variance of a firm's EPS-Growth is composed of two components: a variance that is firm specific (idiosyncratic) and another that is non-idiosycratic and is faced by all the firms. The latter component intends to capture the proportion of the variance in EPS growth that is common to FTSE 100 and 30 other companies in the sample. These two components should be able to explain the *spread* in the EPS-Growth which is the difference between the maximum and the minimum EPS growth that is forecasted by the analysts for each firm Equation (7) summarizes this and shows that the analysts' predicted spread in EPS-growth, the left-hand-side, is equal to the sum of a firm specific standard-deviation of EPS-Growth, σ_y^i, and the proportion of a firm's standard deviation that is marked-up by q. The variable q scales up firm's own standard deviation by an amount that captures shocks common to all the firms. We estimate q by summing over for all firms the ratios of the EPS growth spread in, $t+1$, and the expectational error in firm's EPS growth that occurred in period, t. Intuitively, this ratio captures the fraction in predicted EPS-growth spreads that is left once the most recent surprises in EPS growth have been accounted for. Another way of interpreting q is that it is the fraction in analysts' predicted EPS-growth spread that is not related to the very recent firm's performance but something else. In order to get a standardized measure of, q, we take the root squared sum of q for all the 130 firms in our sample (see second line in Equation (7)).

$$
\begin{aligned}
E(\ y_{\max}^{t+1})\text{-}E(\ y_{\min}^{t+1}) &= (\sqrt{3})(\sigma_y^i + q\sigma_y^i) \qquad (7)\\
\text{where}\quad q &= \sqrt{\sum_{i=1}^{130}\left(\frac{E(y_{\max,t+1}^i) - E(y_{\min,t+1}^i)}{\text{expectational error in EPS growth in firm } i \text{ at } t}\right)^2}
\end{aligned}
$$

Once we have computed, q, we can use the data on the spread in EPS growth in $t+1$ to recover the σ_y^i for the ith firm from Equation (7). There is one last matter that needs explaining and that is the presence of $\sqrt{3}$ in Equation (7). We explain

that now. Because we are only interested in what would happen in the three period during which the conditions on options are being examined the variance in EPS-Growth is computed as the variance in the three-year average expected growth in EPS, i.e., the variance of the average of $m1$, $m2$, $m3$. . Thus,

$$Var\left(\frac{m1+m2+m3}{3}\right) = \frac{1}{9}(\sigma^2_{m1}+\sigma^2_{m2}+\sigma^2_{m3}) + \frac{2}{3}(cov(m1,m2)+cov(m1,m3)+cov(m2,m3)) \quad (8)$$

Now, making the assumption that the variance in EPS growth across years is constant implies that cross covariances can be taken to be equal to one another. Hence,

$$Var(\frac{m1+m2+m3}{3}) = \frac{1}{3}(\sigma^2)+\frac{2\rho\sigma^2}{3} \quad (9)$$

However, we find no compelling reason why expectational errors in EPS-growth back in time would affect current expectational errors. Indeed, the correlations in expectational errors in EPS growth between 2001 and 2002 was found to be -0.02. This led us to assume in equation (9) the correlation, ρ, to be zero. This assumption simplifies our task of computing the variance and implies that

$$\sigma = \sqrt{3} \times \sqrt{Var(\frac{m1+m2+m3}{3})} \quad (10)$$

The right-hand-side of Equation (10) is the standard deviation that is referred to in Equation (7).

Note that in calculating the standard deviations for each firm in Equation (7) we only use the latest expectational errors in EPS-growth that are available at the time of share option grant and also one year forecasts in EPS-growth spread. This is so as shorter forecasts and the latest data on the expectational errors in EPS-growth give a realistic view of what could be expected of the firms. We now have all the ingredients to calculate the probabilities from Equation (5).

Table 3. Descriptive Statistics on the Average Probabilities of Meeting EPS growth Targets

Range	Mean	Max	Min	Obs
0-0.1	0.006	0.013	0	3
0.1-0.2	0.18	0.18	0.18	1
0.2-0.3	0.25	0.25	0.25	1
0.3-0.4	0.36	0.40	0.30	10
0.4-0.5	0.45	0.49	0.40	60
0.5-0.6	0.51	0.57	0.50	7
0.6-0.7	0.63	0.63	0.63	1
All	0.43	0.63	0	83

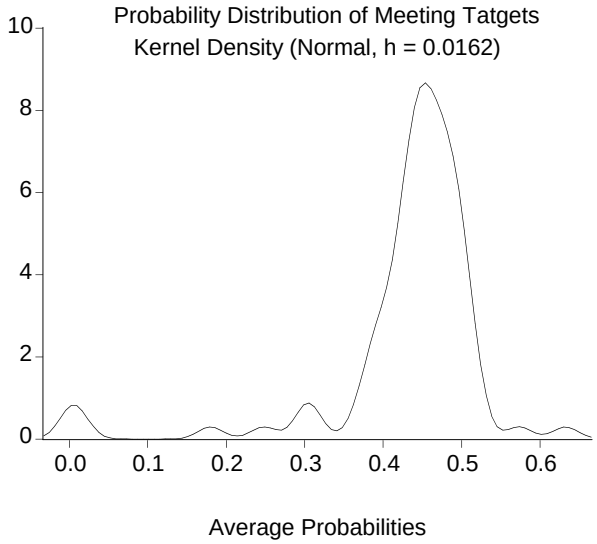

Figure 1: Estimated Probability Distribution

In Figure 1 we present a distribution of the probabilities and Table 3 reports basic statistics on the probabilities. The probabilities in Figure 1 and Table 3 are the average of the probabilities we obtain from three different proxies of the three-year-average-expected growth of EPS, $\bar{y}$, we used in the Equation (4). Out of the 130 firms, 83 firms exclusively use the EPS-growth condition to incentivize the share options awards. The concentration of the probabilities is in the region of 40-50%. Indeed, 60 out of 83 firms set EPS growth targets with an average probability of 45% of hitting the EPS growth target (see Table 3). Thus, for the majority of the CEOs given current information there is about 50% chance of being successful given current information. There are only three firms in the sample with toughness in EPS growth such that the probabilities of hitting the target is below 10%.

The interesting question these probabilities raise is whether or not they are related to company characteristics such as the composition of the remcoms, the independence of the remcoms, the base salaries of the CEO and other variables. In the next section we examine the relationship between the probabilities and these charateristics.

5. Econometric Model and Results

In this section we set up a linear regression model to find out if company fundamentals influence the toughness of EPS-growth targets. We use the following regression model

$$pr_i^j = \alpha + x_i'\beta + \varepsilon_i .....j \ \epsilon \ a, b \text{ or } c \tag{11}$$

where pr_i^j and $x_i^{'}$ denote the probability of hitting EPS-growth target for the ith firm using the jth average three-year expected growth and a vector of explanatory variables respectively. The error term, ε, is assumed to be normally distributed. Before we present the results of our regression, in Table 6 (in the Appendix) a correlation matrix of the fundamental variables we use in the regressions is presented. Generally, all the varaibles are weakly correlated with one another, thus our regressions should not suffer form collinearity and are also independent. One exception is that CEO-salary appears to be postively correlated with the remcom-chair salary and the average salary of members of the remcom. Though, these correlations are not high enough to be cause for concern. Table 4. below presents the results we obtained from the regressions using different probabilities.

Table 4. Regression Results for Equation(11)

Explanatory Variable	*Dependent Variable*		
	pr_a	pr_b	pr_c
Constant	0.56(9.28)	0.56(9.26)	0.55(9.31)
1) Remcom Governance	-0.04(-1.86)	-0.04(-1.77)	-0.038(-1.78)
2) Remcom Membership	-0.01(-1.23)	-0.01(-1.29)	-0.01(-1.28)
3)Remcom Chair Salary*	-0.009(-1.30)	-0.009(-1.30)	-0.0087(-1.26)
4) Avg. Remcom Salary*	-0.0012(-0.10)	-0.0012(-0.10)	-0.0012(-0.10)
5) CEO Tenure	-0.001(-0.45)	-0.001(-0.38)	-0.0015(-0.62)
6) CEO Salary*	0.0003(0.70)	0.0003(0.70)	0.0004(0.84)
7) % of Fixed Salary	0.002(1.16)	0.002(1.16)	0.002(1.19)
8) CEO Notice Period	-0.038(-1.57)	-0.037(-1.51)	-0.038(-1.64)
9) Executive Advice	-0.002(-0.08)	-0.003(-0.12)	-0.004(-0.16)
R^2	0.12	0.1167	.124
F-Test	0.67(0.70)	0.73(0.65)	1.29(0.25)
Number of Observations	80	80	80

t-values in parenthesis

* Chair Salary, Avg, Remcom Salary and CEO Salary are divided by 10000.

In Table 4 we report the results of the regression on Equation(11). We use 9 fundamental variables which we believe should be associated with toughness of the EPS-Growth target, i.e. our probabilities. The regressors pr_a, pr_b, pr_c are based on the various meaures of the expected three-year EPS-growth we discussed

earlier see Equation (6). Note that our results are not affected by the choice of the probability measure.

The first explanatory variable used to explain the toughness of targets is the governance of remcom which is a binary variable and it is set to one when the chairman of the company is part of the remcom and zero otherwise. Our a priori belief is that members of remcom can set targets for awards more freely in the absence of the chairman. Our results suggest a negative relationship between the target toughness and remcom's independence. Thus, the presence of the chairman does imply softer targets. Although the negative coefficient is not large but it is significant at 10 % and this is an encouraging result given our small sample size.

The second variable we use is the number of non-executive directors that sit in the remcom. Does it matter to have a bigger remcom for the toughness of the targets? The coefficient of the variable "remcom membership" is negative in Table 4 implying that companies with a bigger remcom set tougher targets. However, this coefficient is small but significant at 10%. This result in a way justifies the government guidelines that set the minimum number of non-exectuive directors in a remcom to be three.

The third and fourth variables are the salaries of the chairs of remcoms and the average salary of the members of the remcom (other than the chair). *A priori,* higher salaries for the members of the committee would incentivise the remcom to do a better job in setting the appropriate targets for the companies' CEOs. Our results suggest that the coefficients on "Remcom Chair-Salary " and " Average Remcom Salary" are negative as we expected. Although both the coefficients are small, the former is significant at 10% but the latter is highly insignificant Similarly, the coefficient on CEOs tenure, our fifth variable, suggest that CEO's with longer tenure are set tougher targets yet this relationship is too weak and insignificant.

We also include as regressors the current salary of CEOs and the proportion of base pay out of total pay of the CEO. In both cases we expect that if either the base salary or the proportion of the base salary with respect to total pay is generous then the targets for the long term pay targets ought to be tougher. Thus, the idea is that remcoms which are generous in terms of fixed pay are tougher for long-term rewards. We find that there is indeed a negative relationship between target hardness and proportion of base salary to total pay and it is significant at 10% though the coefficient is small. This is an encouraging result. However, contrary to our expectations, we found a positive but insignificant relationship between targets toughness and the CEO salary.

Our eigth and ninth variables are CEO notice periods and "Executive Advice" both of which are binary variables. The notice period is a binary variable and equal to one when the notice period is one year and zero otherwise. The "executive advice" variable is also binary and is set one when the remcoms take the CEO's

advice in setting pay levels and targets for company executives and zero otherwise. For the former variable we expect that a combination of shorter notice periods and harder targets would incentivize the CEOs in the right direction (Kay and Silberston (1995)). Indeed, the coefficient of the variable "CEO Notice Period" turns out as negative and significant at 10%. This result justifies the government recommendation of favouring shorter notice periods. For the latter variable we expect that the intervention by the CEOs in the remcom's decisions make targets softer for long-term pay in that it may also pave the path for easier targets for themselves mself. Though the coefficient on the variable "Executive Advice" is unexpectedly negative but it is weak and highly insignificant.

The majority of the results we have obtained are in the right direction however lack strength, as it is clear from our F-test. However, the fact that most results were individually significant at 10% is encouraging. The weak association between the target toughness and company fundamental can either be down to the sample size and/or the willingness and perhaps the ability of the remcoms to serve the company executive with challenging targets.

The regressions we presented in Table 4 may suffer from selection bias in that in our sample of 130 firms we selected 30 companies from FTSE 350 which exclusively use the EPS-Growth target for the share-options. As a result the sample can be biased. In the next section we present the above results controlling the selection bias.

5.1. Model without Selection Bias.

In this section we apply the two step Heckman procedure in (Heckman 1979) to see if selectivity in terms of firms using earnings per share conditions influences the results. We linked our data from the FTSE1000 with data from company accounts and constructed the following measures as influences on selection: (a) capital to market cap, (b) wage bill to market cap, (c) debt to market cap. We also experimented with several other selection measures. Capital to market cap was the most significant. The reason why we believe this variables affects the selection of the EPS-growth but not the probabilities is that the need for large amounts of capital requires that large institutional investors be attracted to the firm. One way of acheiving this is to use exclusively the EPS targets which are fully geard to delivering returns on shares. However, these investors do not specify that the targets should depend on capital-market-cap ratio since there is no a priori reason to expect EPS target diffculty should depend on capital-market-cap and other ratios. However, in the end our results as shown in Table 5 are broadly consistent with those reported earlier. In particular, the variables such as Remcom Gevernance, Remcom Chair Salary, CEO Salary and % of Fixed Salary which are only significant at 10% after controlling for selection bias. Also the coefficient on the inverse Mills Ratio in all three regressions is not statistically significant.

Although there may be other accounting and economic measures which influence which companies use EPS targets, we were unable to find ones which significantly (below 5% level) impacted on the results.

Table 5. Regression Results for Equation(11) with Heckman Two-Step Selection

	Dependent Variable		
Explanatory Variable	pr_a	pr_b	pr_c
Constant	0.532(5.88)	0.54(5.93)	0.517(5.81)
1) Remcom Governance	-0.043(-1.48)	-0.036(-1.27)	-0.42(-1.51)
2) Remcom Membership	-0.007(-0.81)	-0.09(-0.96)	-0.00695(-0.78)
3) Remcom Chair Salary	-0.01(-1.23)	-0.01(-1.28)	-0.02(-1.20)
4) Avg. Remcom Salary	0.007(0.42)	0.008(0.44)	0.007(0.42)
5) CEO Tenure	-0.00164(-0.46)	-0.001(-0.36)	-0.0017(-0.50)
6) CEO Salary	0.0005(1.02)	0.0005(1.01)	0.0006(1.07)
7) % of Fixed Salary	0.0018596(1.24)	0.0019(1.25)	0.0019(1.29)
8) CEO Notice Period	-0.0295365(-0.93)	-0.027(-0.87)	-0.028(-0.89)
9) Executive Advice	-0.003398(-0.99)	-0.036(1.06)	-0.034(-1.00)
Inverse Mills Ratio	-0.026(-0.25)	-0.029(-0.27)	-0.024(-0.23)
Uncensored *Observations*	80	80	80
Total Observations	130	130	130

z-values in parenthesis

* Chair Salary, Avg, Remcom Salary and CEO Salary are divided by 10000.

5.2. Conclusions

A special feature of UK executive pay is the heavy reliance on performance conditions. This heavy reliance on performance conditions has come through successive generations of ABI guidelines as well as corporate governance reports by government. This paper computes the probabilities of meeting performance conditions and how much these vary across firms. Using remuneration report data and analyst forecasts, we also consider the determinants of our derived probabilities.

Our main findings are that there is not that much cross-company variation in how tough performance conditions are, though there are some outliers. We also find that the probability of meeting the target depends on certain fundamental variables such as number of non-executive directors, salaries of the chairs of the remuneration committees, CEO tenure, CEO base pay and CEO notice periods. While most of the variables have the sign as expected from our a priori beliefs and some are statistically significant at 10%, the size of the coefficients tend to be quite small. We examine whether these statistical relations appear to be driven by selectivity effects in terms of which companies use earnings per share targets and at least as we can tell from available data, there does not appear to be such

statistical bias. Overall, our results provide some support that good corporate governance leads to tougher targets on CEOs but at the same time the weakness of these links suggests that there is still much room for improvement.

6. Appendix

	Remcom Governance	Remcom Membership	Remcom Chair Salary	Avg. Remcom Salary	CEO Tenure	CEO Salary	% of Fixed Salary	CEO notice Period	Executive Advice
Remcom Governance	1.00								
Remcom Membership	0.09	1.00							
Remcom Chair Salary	-0.17	0.14	1.00						
Avg. Remcom Salary	-0.15	0.25	0.45	1.00					
CEO Tenure	-0.06	0.02	-0.02	-0.07	1.00				
CEO Salary	-0.16	0.23	0.38	0.40	0.19	1.00			
% of Fixed Salary	0.14	-0.14	-0.05	-0.29	0.08	-0.13	1.00		
CEO notice Period	-0.13	-0.16	0.05	-0.01	0.04	-0.09	0.02	1.00	
Executive Advice	0.19	0.07	0.04	-0.06	0.01	0.08	0.06	-0.03	1.00

Table 6. Correlation Matrix

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