The choice of performance measures, target setting and vesting levels in UK firms' Chief Executive Officer equity-based compensation.

This paper analyses factors influencing the choice of performance measure in CEO compensation contracts, for a sample of 3,400 plans from 400 UK firms between 2007 and 2015. We examine the effect of the volatility of earnings per share (EPS) and of total shareholder returns (TSR) on the choice of performance measures, taking into account four categories of measure: EPS alone, TSR alone, EPS and TSR jointly, or neither EPS nor TSR. This allows us to utilize a comprehensive cross-section of plans. The results are robust to controlling for plan types, the use of different compensation consultants, industry, and time-specific effects. We find that "EPS and TSR jointly" is the most common category of performance measure employed by firms. Our empirical results show that firms with higher EPS volatility and lower TSR volatility are more likely to choose TSR as a performance measure and that firms with higher EPS volatility are less likely to choose EPS alone; we argue that these results are consistent with optimal contracting theory. Secondly, we conduct a novel, detailed description of the performance measures, comparator groups, plan choices, threshold targets and vesting levels at minimum and maximum thresholds, used in CEO compensation contracts. We further argue that commonalities across firms in the elements of target-setting are evidence of institutional isomorphism.

JEL Keywords: Performance target, CEO Compensation, Long-term incentive plans, Optimal contracting

1 Introduction

There have been widespread concerns not only about excessive levels of CEO pay but also about the mechanisms of incentivization. The financial crisis and recent Covid crisis have further highlighted issues relating to excessive executive compensation. Prior to the 1990s, the vesting[1] of stock options and restricted shares were time-dependent as opposed to performance contingent. However, in 1995 the UK *Greenbury Report* recommended that executive equity compensation should be made dependent upon firm performance, in preference to traditional time-vested options and restricted stock shares. Successive versions of the corporate governance code have resulted in the shift of the landscape for long-term incentive plans (LTIPs), to strengthen interest alignment between executives and shareholders. Since 2002, UK firms have been required to disclose the components of their long-term incentive plans and the performance targets attached to the compensation contracts as per the Directors' Remuneration Report Regulations 2002 (DRRR, 2002) and other corporate governance codes. From year 2020 onwards, large UK listed companies have a statutory disclosure requirement to report their CEO pay ratios, and to justify the CEO pay ratio, and CEO pay gaps with average workers' pay.

The executive compensation literature has generally focused on examining the association between executive compensation and firm performance (Jensen and Murphy, 1990; Bebchuk and Fried, 2004; Ozkan, 2007; Elsayed and Elbardan, 2018; Cui et al., 2021; Ntim et al., 2019). Even though, as Murphy (1999) notes, the type of performance measure forms an integral part of compensation structures, along with the setting of targets, only a limited number of studies have analyzed these contractual terms (e.g., De Angelis and Grinstein, 2015; Li and Wang, 2016; Gao et al., 2017), and whether contracts are designed optimally is still a matter of debate. Additionally, we observe a paradox: while there is greater disclosure within annual reports (remuneration reports) with regard to remuneration, there is little understanding of the general norms and trends in performance targets; moreover, how contractual terms are set is not well understood by investors or the general public.

The present study contributes to this debate by drawing on a novel dataset which provides an opportunity to examine the current landscape of long-term incentive plans and their features. While most studies have examined US firms, research on executive compensation in the UK has made a limited survey of performance measures and targets; furthermore, the overall sample period for these studies ends in 2003 (e.g., Conyon et al., 2000; Pass et al., 2000; Zakaria, 2012), when corporate governance was still evolving in the UK.

This paper makes several contributions to the governance literature. First, we document a wider array of performance categories employed in CEO equity compensation contracts than has been done in previous studies. Secondly, we provide details on vesting levels pertaining to minimum and maximum thresholds of EPS performance measures. Thirdly, we provide new detail on the different relative benchmarks and the use of "outperformance" plans, which trigger vesting when market-based performance measures are set beyond the upper quartile percentile ranking (i.e. in the highest quintile). Fourthly, for accounting-based performance measures, we present new detail on the breakdown of different types of EPS and relative targets. Finally, we perform empirical analysis of the effect of EPS and TSR volatility on the choice of performance measure made by firms in CEO equity compensation, after controlling for firm-specific characteristics, industry and the identity of the remuneration advisors. In this, we extend the analysis to consider plans which use both EPS and TSR simultaneously as performance measures, and also those which use neither EPS nor TSR, categories which together make up more than half of our sample, but which all previous studies have neglected, opting instead for a simplistic EPS vs TSR dichotomy. We find evidence in line with optimal contracting theory, as firms select performance measures which are less volatile, and our findings also indicate that some

[1] Vesting refers to the time when restrictions on shares are lifted, and shares are granted to executives.

remuneration advisors have a clear preference for specific performance measures rather than others.

The rest of the paper is structured as follows: Section 2 provides an overview of the literature and sets out the study hypotheses. Section 3 describes the study methodology. In Section 4, we present the data analysis and empirical results of the model. Section 5 focuses on the detailed design of compensation contracts. Section 6 provides a summary and conclusion.

2 Literature review and hypothesis development

Optimal contracting theory views equity-based compensation as a key corporate governance mechanism to align the divergent interests of management and shareholders of the company. Compensation schemes ought to be designed to serve this objective, and firms ought to seek more sophisticated ways of tying executive compensation to firm performance. Hence, optimal contracting theory predicts that firms should incorporate all performance measures which might motivate managers to act in the manner desired by the firm's shareholders.

The Association of British Insurers (ABI), now merged with Institutional Voting Information Service (IVIS), in 1996 published guidelines on the framework of long-term incentives, which promote the following principles[2]. 1) performance targets should be challenging and linked to corporate performance, 2) performance targets should be transparent and subject to disclosure, and 3) in order for compensation contracts to provide incentives for CEOs to consider the firm's long-term performance, the firm's performance should be measured relative to an appropriate peer group or other relevant benchmarks. Interestingly, neither agency theory nor the IVIS guidelines specifically mention the use of specific performance measures in compensation contracts, but the theory can be applied to determine the properties of suitable measures to evaluate executive performance. Hence, this study will seek to determine how firms use different performance measures to align executives' interests with those of shareholders.

2.1 Isomorphism in Executive Compensation Contracts

The separation of ownership and control can affect the manager's choice of action that potentially influences the wealth of a company's shareholders; efficient contracts should, therefore, be designed in such a way to ensure greater manager-shareholder interest alignment (Conyon et al., 2009). However, other constraints and influences inform the construction of executive contracts. For example, companies are liable to copy existing practice, and compensation consultants may diffuse the adoption of certain pay practices to other firms, as they may tend to recommend similar structures to a number of different clients. Additionally, executives may bring with them their own expectations of how contracts should be structured, drawing on their own experience of service on other boards.

More formally, the literature of institutional theory uses a discourse of "isomorphism" to account for these socially mediated similarities (DiMaggio & Powell, 1983). Three different forms of isomorphism have been identified: mimetic, coercive and normative. Mimetic isomorphism exists when firms follow what other firms are doing in the absence of clear guidelines (Porac et al, 1999; Zajac and Westphal, 1995). Normative isomorphism exists when firms follow standard procedures owing to the influence of common personnel, for example when the movement of executives from one board to another leads to common practices being introduced (Perkins and Hendry, 2005). Coercive isomorphism arises from regulations or codes of conduct forcing the adoption of certain pay-performance practices (Barreto and Baden-

[2] The ABI guidelines have since been incorporated into the guidelines produced by IVIS, which is now part of the UK Investment Association.
https://www.ivis.co.uk/guidelines and https://www.ivis.co.uk/media/13874/Principles-of-Remuneration-Nov-2018-FINAL.pdf
[accessed 20 June, 2019].

Fuller, 2006). In regard to executive compensation, we suspect that all three forms of isomorphism may be involved.

2.2 The Role of Compensation Consultants

With an increase in the complexity of equity-based pay, the role of the compensation consultant has become crucial, as consultants are considered experts with technical knowledge of the design of compensation packages (Bender, 2011). It has become a widespread practice on the part of US and UK firms to hire compensation consultants to advise on the design and implementation of compensation packages. Kabir and Minhal (2014) report that UK FTSE 350 non-financial firms employ one consultant and more than 50% of firms had hired two compensation consultants over the period 2003-2006. In relation to the employment of two [compensation] consultants' Conyon et al. (2009) suggest that one consultant gathers data [provides data services] while the other advises on packages. Most firms use compensation consultants to gain a perspective on industry-wide compensation practices and those of their competitors. It is possible that as consultants devise new innovative compensation designs, pay-performance practice becomes similar across the clients they advise. Hence, this represents an example of normative isomorphism.

2.3 Executive Compensation - Contracts and Performance Measures

Few studies have looked in detail at the structure of compensation contracts, and most of the research that has been done has focused on US firms. Murphy (1999) analyzes the pay practices of US firms, looking at the performance measures and structure of shares and options employed. Pass et al. (2000) analyze the breakdown of performance measures in options and long-term incentives for 150 large companies in the UK. Neither of these studies sheds light on the minimum and maximum thresholds required in these performance measures.

In examining the history of executive compensation, we observe that the first generation of performance contracts predominantly utilized market-based measures, while subsequent development has seen the wider introduction of accounting-based measures, and a greater sophistication in the levels and mechanisms of vesting of the rewards. In the UK there has been a move towards much greater transparency and disclosure in executive pay, as stipulated by several corporate governance codes, such as the UK Corporate Governance Code (2018)[3], whereas in the US the pay-setting process is less transparent as well as less complex.

By way of illustration, Kumar and Sopariwala (1992) found only 62 companies that had adopted plans with accounting performance conditions attached. Later studies charted the introduction of non-financial measures in bonus contracts, for example measures relating to customer services, while production and safety also became prevalent in equity-based contracting processes (Ittner, Larcker and Rajan, 1997). Kaplan and Norton (1992) developed a non-financial measure known as a "balanced scorecard" in compensation contracts, which employs various performance measures with different weights, unlike the specific use of total shareholder return, return on investments or customer satisfaction.

Firm performance measures began to be used in the determination of executive pay and that the research, therefore, started to analyse the relationship between pay and performance (e.g., Jensen and Murphy, 1990; Conyon and Peck, 1998; Bebchuk and Fried, 2004; Gregg et al., 2012). Sloan (1993) examined the role of accounting measures in compensation contracts, and documented that the use of earnings in a compensation pay setting will tend to shield

[3] Financial Reporting Council, The UK Corporate Governance Code (2018) https://www.frc.org.uk/getattachment/88bd8c45-50ea-4841-95b0-d2f4f48069a2/2018-UK-Corporate-Governance-Code-FINAL.pdf

compensation from stock market fluctuations. He also suggested that if the stock prices enatil a noisy element, then compensation will be more sensitive to earnings than stock returns. Further, Lambert and Larcker (1987) studied the weights placed on market and accounting performance measures in executive compensation packages by US firms, and suggested that firms place more weight on market performance measures when accounting performance measures are more volatile.

Until the reforms brought in by the UK DRRR in 2002 and the US Securities and Exchange Commission (SEC) in 2006, the disclosure of details of executive compensation contracts was limited. Since then, researchers have started to hand-collect compensation data on US firms. For example, Kim and Yang (2010) examine performance metrics in annual bonus contracts during 2006-2009, Bettis et al. (2010) examine 983 US equity-based grants with performance contingency from 1995 to 2001, and De Angelis and Grinstein (2015) analyze the performance criteria in US equity-based grants in 2007. However, far fewer studies have examined compensation contracts in the UK.

Zakaria (2012) presents a breakdown of performance measures into options and restricted shares for UK firms for the single year 2002/2003. The study classifies performance targets according to their use of EPS or TSR measures. We extend that research by taking into account all elements of equity compensation, including matching plans, and by analyzing the minimum and maximum thresholds required to achieve minimum and upper quartile vesting, neither of which is captured by Zakaria (2012). In addition, our empirical analysis includes companies which employ EPS and TSR measures in combination. We consider this to be an important methodological advance since this latter category accounts for 39% of the firms in our empirical analysis.

We identify three different forms of equity compensation and these are also referred as “long-term incentive plans". Firstly, traditional share options are options on the company’s stock with a non-zero strike price, so that the executive receives cash equal to the difference between the share price and the exercise price on the day they are exercised. Secondly, performance share plans (PSPs), also known as nil cost options, are options on the company’s stock with a zero strike price, which pay cash on the day they are exercised in a similar manner. Finally, share matching plans, also known as co-investment plans, are those in which executives invest part of their annual bonus in shares, and if long-term performance criteria are met after three years, they receive a multiple of their initial investment in the form of shares. For some firms, this deferral is compulsory rather than voluntary. For example, in a “2:1” match, a deferral of 200,000 shares leads to the grant of an additional 200,000 shares if performance targets are met. Finally, long-term compensation may be given in the form of cash.

2.4 The Problem of Volatility in Measuring Performance

Holmström (1979) formulates the theory of the optimal contact under the moral-hazard problem, and develops the *“Informativeness Principle”*, that any performance measure that reveals information about the level of effort provided by an agent (CEO) should be included as a performance metric. He further shows the negative relationship between the noise present in a performance measure and its usefulness in a compensation package. Further, Aggarwal and Samwick (1999) conclude that CEO pay becomes less sensitive to performance as TSR volatility increases. High pay-performance sensitivity (PPS) evidences a greater alignment between the interests of shareholders and executives. PPS is the responsiveness of pay to the change in company performance. Over time, one accounting measure, namely, earnings, has become predominant as a performance measure in incentive contracts. One explanation is that earnings figures are more under the direct control of management (Sloan, 1993; O’Byrne, 1990) By contrast, stock prices are affected by market factors which are outside the control of management.

Until the 1980s, the use of accounting performance measures was considered to be the only remedy to the issue of volatility in share prices, because market-based measures were seen as unreliable indicators of management effort. Firms' use of market and accounting-based measures have been observed by Murphy (1999) and Pass et al. (2000). However, in the last two decades, it has become increasingly common to use comparator groups within TSR measures in order to identify and reward "outperformance" and factor out fluctuations which are due to overall market movements. Holmström (1982) conducts a pioneering study in measuring relative performance evaluation (RPE), focusing on the need to remove common risk within compensation packages by using the share price relative to a peer group of companies within the same industry or market. RPE in compensation contracts enables common shocks to be filtered out and provides more efficient schemes (Bakke et al., 2020). Li and Wang (2016) explore the relationship between volatility and the choice of each individual long-term accounting measure in the compensation contracts of US firms. Their results show that firms are more likely to choose those performance measures which are less volatile.

In light of the above discussion, we formulate the following hypotheses:

Hypothesis 1: The higher the volatility of the market-based (TSR) measure, the greater is the likelihood of firms choosing an accounting-based measure (EPS) in CEO equity compensation contracts.

Hypothesis 2: The higher the volatility of the accounting-based measure (EPS), the greater is the likelihood of firms choosing a market-based measure (TSR) in CEO equity compensation contracts.

3 Methodology

3.1 Data and data sources

Our sample consists of the 400 UK firms with the largest market capitalization, from 2007 to 2015. Data on executive compensation contracts comes from the commercial MEIS database, supplemented by hand-collected data from annual reports for 2007 to 2010. To ensure data integrity, MEIS data was verified by checking against hand-collected annual reports. After removing all inactive plans and those not used in the current year, the initial total of 3400 long-term incentive plans is reduced to a final sample 2970.

3.2 Explanatory Variables

For independent variables, we use volatility in earnings per share (hereafter, EPS volatility) and volatility in total shareholder return (hereafter, TSR volatility). Furthermore, we also include corporate governance characteristics: board size, percentage of non-executive directors, firm age and CEO tenure, which, potentially, have an influence on choice of performance measures. Following Zakaria (2012), we employ a set of control variables: free cash flow, market to book value, and sales. We expect that the choice of performance measure will be influenced by sales, and firms will select market-based performance measures if they can find appropriate peers against which to compare firm performance. Murphy (1999) finds that firms with higher levels of growth opportunities are more likely to employ TSR over internal measures, as TSR incentivizes managers of higher-growth firms to smooth out any fluctuations. All of these variables relate to the previous year. MTB is defined as the Market to Book value, using the MTBV datatype from Datastream. Total shareholder returns and earnings per share are derived from the Return Index data published by Datastream. In addition, we use Datastream to ascertain the percentage of non-executive directors on the board. We collect data for board size from Bloomberg. We follow Zakaria (2012) and define TSR volatility as the Total Return volatility, measured quarterly, over the prior three years. We define EPS volatility as the volatility of EPS growth measured on a semi-annual basis, over the prior three years, since UK firms disclose EPS twice a year. Variables and their definitions are presented in Table A1 in the Appendix.

3.3 Sample Selection

Many firms generally use the same category of performance measure for all equity payment methods (i.e., options, restricted stock shares/performance share plans and matching plans). Most firms refer to these different types of payment methods/vehicles as "Long-term Incentive Plans"[4]. A few firms, however, employ different performance measure for different payment methods, for example choosing EPS and TSR jointly in one long-term incentive plan while using EPS only in another long-term incentive plan. For the purposes of the present analysis, if more than one long-term incentive plan exists, we include only firms which use the same category of performance measure across all of these plans. This restriction loses 3% of the overall sample by firm-years. Initially, our sample consists of 2970 active long-term incentive plans. For the purposes of descriptive statistics, we exclude plans that relate to one-off circumstances, e.g., mergers and acquisitions, spin-offs, retention plans and recruitment plans, since, in most cases, these are specific to named executives, and many do not have any performance conditions attached. We also exclude those firms which use a combination of TSR and some other performance measure (excepting EPS or other income-based measures) in a single year, and also those firms which use a combination of EPS and some other performance measure (excepting TSR) in a single year. Additionally, to be included in a regression, a company must have valid corporate governance variables and valid data on total shareholder return and earnings per share for the prior three years for each year. The sample used for empirical analysis is at the firm level and consists of 1931 firm-years.

3.4 Data Coding

The central testable prediction of the optimal contracting theory is that volatility in performance measures will affect the choice of which measures to use in a compensation contract. Accordingly, we test the hypotheses using a multinomial logit model, in which the dependent variable, namely the choice of performance measure, falls into four different categories: we code "EPS and TSR jointly" as category 0, TSR as category 1, EPS as category 2, and "neither EPS nor TSR" as category 3.

In the following analysis, the "neither EPS nor TSR" category includes plans where the performance measure is either qualitative or where it includes neither a TSR nor an EPS measure, such as employee satisfaction or net asset value respectively.

Multinomial Logit Model

The multinomial logit model is used because the dependent variable takes on one of four values or categories (performance measures), and these are assumed not to have a natural ordering. We model the probability that a firm will choose each of these as a function of firm characteristics, noting of course that the probabilities must sum to one so that one category is designated as the base category. The underlying model is the random utility model – each category *j* is assumed to provide firm *i* with random utility, and the firm chooses the category for which this is the highest. More formally, let $P_{i,j}$ be the probability that the *i*th firm chooses performance measure *j*, given by

$$P_{i,j} = \Pr(R_{i,j} > R_{i,k}) \text{ for } k \neq j, j \in (0,1,2,3) \quad (1)$$

where $R_{i,j}$ is the utility of firm *i* if it chooses performance measure *j*. $R_{i,j}$ is assumed to depend linearly on firm characteristics, with measure-specific coefficients:

[4] https://www.mercer.com/our-thinking/career/long-term-incentives-the-basics.html [accessed 20 June, 2020].

$$R_{i,j} = \beta'_j X_i + \varepsilon_{i,j} \quad (2)$$

where $\boldsymbol{X}_i$ is a vector of firm characteristics, and $\boldsymbol{\beta}_j$ is the vector of coefficients.

If the stochastic terms $\varepsilon_{i,j}$ are independent and identically distributed as a log Weibull distribution, then the probability of category *j* is given by:

$$P_{i,j} = \frac{\exp(\beta'_j X_i)}{\sum_{j=0}^{3} \exp(\beta'_j X_i)} \quad (3)$$

We set "EPS and TSR jointly" as the base or reference category, and normalize the corresponding vector $\boldsymbol{\beta}_0 = \mathbf{0}$. Hence, the probability of firm *i* having (EPS and TSR jointly) as a performance measure in a compensation contract is given by:

$$P_{i,0} = \frac{1}{1 + \sum_{j=1}^{3} \exp(\beta'_j X_i)} \quad (4)$$

And the probability of firm *i* having EPS only, TSR only, or (neither EPS nor TSR), is given by:

$$P_{i,j} = \frac{\exp(\beta'_j X_i)}{1 + \sum_{j=1}^{3} \exp(\beta'_j X_i)} \text{ for } j = 1, 2, \text{and } 3 \quad (5)$$

In order to understand the estimates of the β_j, notice that the ratio of (5) to (4) defines the ratio of the probability of *j* to the probability of the base case to be exp $(\beta'_j X_i)$. Hence the estimated coefficients do not have a straightforward interpretation: they indicate an increase in one of the explanatory variables will tend to increase (decrease) the probability of *j* being selected relative to the base case when the associated coefficient is positive (negative). Because the parameter estimates are not the effects of the respective explanatory variables on the probabilities, we also report the marginal effects. The marginal effects are the derivatives of the probabilities of choosing *j* from changing an explanatory variable and depend on the values of all the explanatory variables.

In corporate governance studies, there can be concerns of endogeneity, that is, whether one or more of the explanatory variables are jointly determined with the variable being explained. However, this is felt to be less likely to be a concern in this study, because of the way the model has been structured. [5]

The key takeaway from the estimated models will be whether the choice of performance measure depends on volatility.

4 Data Analysis and Empirical Results

4.1 Descriptive Statistics

4.1.1 Performance Measures Used in Long-Term Incentive Plans

Table 1 exhibits the breakdown of performance measures used in compensation contracts by plan type. We observe that EPS only and TSR only are the most popular performance measures used in long-term incentive plans, followed by ROE and Profit. Many firms in our sample use more than one performance measure, resulting in 5124 performance measures in 2,970 compensation plans. Market-based measures (i.e., TSR, Share Price and Total Property Return)

[5] We regress the dependent variable (choice of performance measure) on a past value of the key explanatory variable, the volatility over the previous 3 years. It does not seem reasonable that the volatility at time "t-1" could depend on the choice of the performance measure at time "t" (or on any of its unmodelled determinants, captured by the error term).

together account for 72% of long-term incentives. Panel A of Table 2 presents the breakdown of compensation plans that use different performance measures. When all plans are considered, Panel B reveals that 31% of plans use EPS and TSR jointly as a performance measure, making this the most frequently employed category. Panel C presents statistics for the firms included in the regression, where we include only those which use TSR only, EPS only, TSR and EPS jointly, or neither TSR nor EPS. In this sub-sample, 27% of the plans use TSR only, 25% use EPS only, 39% of use EPS and TSR jointly, and 9% use neither TSR nor EPS as a performance measure. Thus, the largest proportion of plans use EPS and TSR jointly as a performance measure. In cases where firms employ only one performance measure, very similar proportions of plans use TSR, and EPS and this finding is in line with findings from Grant Thornton (2020).[6]

Panel A of Table 3 presents a summary of the statistics for firm characteristics for the sample period and reports the means, medians and standard deviations. The median (mean) board size is 9 (8.67), consistent with Ozkan (2007). The mean (median) proportion of non-executive directors is 49.73% (47%) and the mean (median) value of EPS volatility is 0.30 (0.15). The mean value of TSR volatility is 0.05, suggesting that EPS is a much more volatile measure. Panel B of Table 3 reports the correlations between the independent variables. The correlation between the EPS volatility and TSR volatility is only -0.02. Turning to the correlations between the control variables, we find that the largest correlation is 39% (Panel B of Table 3). Thus, we infer that multicollinearity in the data is not a major concern.

Panel C of Table 3 reports summary statistics for compensation consultants. High New Bridge Street (HNBS) is the most popular consultant, with a market share of 34.4%, followed by Deloitte (14.9%), Kepler (11.9%), Towers (10.4%), PwC (9.8%) and Mercer (1.3%). The "big six" remuneration consultants account for 83% of total market share, similar to the US, where the largest six remuneration advisors account for more than 67% of total market share (Cadman et al., 2010). Smaller advisors include MEIS, EY, MM&K, Fit, Aon Hewitt, M C Lutyens, Pinsent, RSA Consulting, KPMG and Hay.

[6] Simon Lowe, 'Corporate Governance Review 2020: connecting the dots' (Grant Thornton, 17 Nov 2020); https://www.grantthornton.co.uk/insights/corporate-governance-review-2020/ Accessed 10 January 2020

Table 1: Performance measures used in long-term incentive plans

	No.	TSR	Share price	EPS	ROE	TPR	Profit	Revenue	Cash Flow	NAV	Other qualitative measures	Other accounting measures	No condition	Total
Performance share plans	2176	1721	38	1415	269	56	135	34	88	106	73	133	3	4063
Share options	347	114	8	244	15	0	16	6	0	5	0	7	8	423
Matching plans	447	190	5	234	69	9	32	4	31	26	28	11	5	638
Total	2970	2025	51	1893	353	65	183	43	119	137	101	151	16	5124

Note: The table presents the number of plans falling into each respective category “No.” indicates the number of plans, “TSR” indicates the use of Total Shareholder Return, defined as the increase in share price in addition to dividend income, 'Share price' indicates the use of share price alone, i.e. the increase in share price exclusive of dividend income. “EPS” indicates the use of earnings per share, “ROE” indicates the return on common equity as a measure, and “NAV” indicates the use of net asset value. “TPR” stands for total property return, in the case of Real Estate firms. “Other qualitative measures” include the use of non-financial/personal objectives in the executive compensation contracts (e.g., customer satisfaction, safety, health and strategy). “Other accounting measures” include all accounting measures which cannot be classified in other categories. Finally, “No condition” indicates plans which do not employ any performance measure. “Total” indicates the total number of performance measures used across all plans, as one plan can have several performance measures.

Table 2: Categories of performance measures used in long-term incentive plans

		(1)	(2)	(3)	(4)	(5)	(6)		
		TSR only	TSR and other measure	EPS only	EPS and other measure	EPS & TSR	Neither TSR nor EPS	Total including all plans	Total of columns 1, 3, 5 and 6
Panel A	Performance share plans	508	379	289	98	792	111	2177	1700
	Options	71		193	0	69	36	376	369
	Matching plans	59	69	112	44	58	75	417	304
	Total	**638**	**455**	**594**	**142**	**919**	**222**	2970	2373
Panel B	Performance share plans	17.1%	12.8%	9.7%	3.3%	26.7%	3.7%		
	Options	2.4%	0.2%	6.5%	0.0%	2.3%	1.2%		
	Matching plans	2.0%	2.3%	3.8%	1.5%	2.0%	2.5%		
	Total	**21.5%**	**15.3%**	**20.0%**	**4.8%**	**30.9%**	**7.5%**	100.0%	
Panel C	Performance share plans	21.4%		12.2%		33.4%	4.7%		71.6%
	Options	3.0%		8.1%		2.9%	1.5%		15.5%
	Matching plans	2.5%		4.7%		2.4%	3.2%		12.8%
	Total	**26.9%**		**25.0%**		**38.7%**	**9.4%**		**100.0%**

Note: The table presents the number of plans falling into each respective category. “TSR only” indicates the number of plans that exclusively use TSR as a performance measure. “TSR and others” indicates the number of plans that use TSR in combination with other performance measures (e.g., net asset value, return on common equity, total property return and revenue). “EPS and TSR” indicates the number of plans that use TSR and EPS jointly as a performance metric. “Neither EPS nor TSR” indicates the number of plans that use performance measures other than total shareholder return and earnings).

Table 3: Descriptive Statistics

Panel A: Firm-Level Characteristics

Variable	Mean	Median	Std. Dev	Variable	Mean	Median	Std.-Dev
EPS Volatility	0.30	0.15	1.15	% of non-executive directors	49.73	47.00	2.47
TSR Volatility	0.05	0.02	0.20	Ln (Free Cash Flow)	7.02	6.90	0.40
Market to Book	3.85	2.27	4.23	Ln (Sales)	6.75	6.60	1.74
Board Size	9.00	8.67	2.60	Ln (CEO Tenure)	1.38	1.50	0.95
Ln (Firm Age)	3.05	3.04	1.04				

Panel A reports summary statistics of the key variables used in the hypotheses tests to examine the impact of volatility on the choice of performance measure.

Panel B: Correlation Matrix of Main Independent Variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) EPS Volatility	1								
(2) TSR Volatility	-0.02	1							
(3) Market to book	-0.00	-0.02	1						
(4) Ln (Board size)	0.01	-0.03*	0.01	1					
(5) Non-executive directors %	-0.04*	-0.02	0.05**	0.22***	1				
(6) Ln (Sales £'000)	-0.10***	-0.03	0.01	0.30***	0.36***	1			
(7) Ln (Free cash flow)	-0.05**	-0.03	0.00	0.29***	0.25***	0.39***	1		
(8) Ln (CEO Tenure)	-0.05**	-0.00	-0.01	-0.09****	-0.11***	-0.16***	-0.06***	1	
(9) Ln (Firm Age)	-0.11***	0.02	-0.11***	-0.05***	-0.018	-0.00	0.00	0.13***	1

Panel B reports the pairwise correlation of the main independent variables. ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel C: Major Compensation Consultants in the UK

Name of Advisor	No of Plans	Percent
Deloitte	377	14.96%
High New Bridge Street	868	34.44%
Kepler	301	11.94%
Mercer	32	1.27%
Others	430	17.06%
PwC	249	9.88%
Towers	263	10.44%
Total	**2520**	**100%**

Panel C reports a breakdown of compensation consultants

4.2 Empirical Results

Columns 1 to 3 of Table 4 reports the results of the multinomial logit models with the four categories of performance measure. The results reveal that firms are more likely to choose TSR only rather than TSR and EPS jointly if they have higher EPS volatility. This finding supports Hypothesis 2. Additionally, firms are significantly less likely to use TSR only rather than TSR and EPS jointly if they have higher TSR volatility. This finding supports hypothesis 1 and suggests that firms with volatile TSR tend to include EPS as a performance metric along with TSR as opposed to selecting TSR only in compensation contracts.

In Column 2, relating to the selection of EPS only, we find a negative and highly significant coefficient for EPS volatility, indicating that firms are less likely to use EPS only, over the alternative of EPS and TSR jointly, when firms have volatile EPS. This finding partially supports hypothesis 2. However, we do not find evidence of an association between the probability of choosing "neither TSR nor EPS" and the volatilities of EPS and TSR. These findings are consistent with Lambert and Larcker (1987) and Sloan (1993) and are also in line with the optimal contracting theory, which suggests that volatility has a significant role in the choice of performance measures.

Column 1 shows that the coefficient on sales is negatively associated with the selection of TSR only and "neither EPS nor TSR" relative to the reference category, so that firms with higher sales are significantly less likely to use TSR alone. It could be argued that as large firms tend to be pioneers of innovative designs (Kole, 1997) they are more likely to include several different performance measures in their remuneration contracts.

De Angelis and Grinstein (2015) compare the likelihood of using either market-based or accounting-based measures for US firms, in contrast to our methodology of making comparisons with the reference group of "EPS and TSR jointly". While they find that firms with longer CEO tenure are more likely to use accounting-based measures, we find that firms with longer CEO tenure are more likely move away from using EPS and TSR jointly, to using TSR alone or EPS alone. We speculate that this may be because CEOs dislike dual targets and that longer tenure gives them more influence in the pay-setting process. One explanation for different findings in the two studies could be that their study considers a different dataset and a different institutional environment.

Our findings also show that firms rely more on accounting-based measures, and less on TSR alone, as firm age increases. De Angelis and Grinstein (2015) likewise find that young firms tend to use market-based measures rather than accounting measures in performance contracts. They argue that this is in line with optimal contracting theory, since market value is a better indicator of long-term outcomes than current-year accounting measures.

The coefficients on market to book ratio are insignificant in Column 1 and Column 2, indicating that firms with higher growth opportunities have no clear preference for choosing EPS only or TSR only. Firms with a higher percentage of non-executive directors on the board are less likely to favor EPS only but are more likely to favor TSR only relative to the base category. These results suggest that firms with a higher proportion of non-executive directors are motivated to employ TSR, either alone, or in conjunction with EPS, as it is in the greater interest of shareholders. Concerning consultant-specific effects, the reference group used in the present study for the identity of the remuneration advisor is "Deloitte". Based on the results in Column 1, firms that use HNBS, Kepler, PwC and the "Others" category as their remuneration consultants are more likely to employ TSR only as a performance measure, relative to those that use Deloitte. This is in line with Kuang et al. (2014), who find that Deloitte is less likely to use TSR only than HNBS or Towers Perrin. However, firms that hire HNBS, Towers and consultants in the "Others" category are less likely to favor EPS over EPS and TSR jointly, relative to Deloitte. Finally, we detect a significantly positive association between the choice of Mercer and the choice of "neither TSR nor EPS" relative to the base category.

These findings strongly suggest that compensation consultants play an influential role in the design of remuneration contracts, and indicates the operation of normative isomorphism, as consultants who provide services to multiple firms use similar performance metrics. In untabulated results, we find that these results do not vary when controlling for plan types.

Table 4: Multinomial logit model estimating the probability of performance measures being employed in compensation contracts

Multinomial Logit				**Marginal Effects**			
Variable	**(1)** **TSR only**	**(2)** **EPS only**	**(3)** **Neither TSR nor EPS**	**(4)** **Pr (TSR only)**	**(5)** **Pr (EPS only)**	**(6)** **(EPS and TSR jointly)**	**(7)** **Pr (Neither TSR nor EPS**
EPS vol	0.119***	-0.120**	0.051	0.035***	-0.026***	-0.008	-0.000
	(0.021)	(0.058)	(0.033)	(0.013)	(0.009)	(0.007)	(0.008)
TSR vol	-3.673***	-2.193	-1.726	-0.692**	-0.091	0.783**	-0.000
	(1.304)	(1.334)	(1.642)	(0.341)	(0.203)	(0.329)	(0.007)
Market to book	0.000	-0.001	-0.060**	0.000	-0.000	0.000	-0.000
	(0.004)	(0.004)	(0.025)	(0.005)	(0.003)	(0.007)	(0.015)
Ln (Board size)	1.341***	0.874***	0.154	0.248***	0.044	-0.291**	-0.001
	(0.323)	(0.307)	(0.427)	(0.067)	(0.048)	(0.145)	(0.121)
Non-executives%	0.024***	-0.021***	-0.012	0.007***	-0.005**	-0.002	-0.000
	(0.005)	(0.005)	(0.008)	(0.001)	(0.002)	(0.002)	(0.004)
Ln (Sales)	-0.362***	-0.035	-0.219***	-0.080***	0.018**	0.061***	-0.000
	(0.059)	(0.060)	(0.084)	(0.030)	(0.008)	(0.014)	(0.021)
Ln (Free Cash Flow)	0.550***	-0.687***	-0.107	0.171***	-0.140**	-0.029	-0.000
	(0.202)	(0.218)	(0.357)	(0.049)	(0.055)	(0.048)	(0.043)
Ln (Tenure)	0.201***	0.225***	0.239*	0.030	0.020	-0.052***	0.000
	(0.066)	(0.076)	(0.127)	(0.024)	(0.015)	(0.014)	(0.031)
Ln (Firm Age)	-0.324***	0.135*	-0.388***	-0.082*	0.042***	0.0412	-0.000
	(0.0634)	(0.074)	(0.121)	(0.049)	(0.011)	(0.028)	(0.075)
Consultant dummies							
HNBS	0.729***	-0.447**	-1.092***	0.184***	-0.126	-0.054	-0.004
	(0.224)	(0.202)	(0.315)	(0.067)	(0.139)	(0.201)	(0.386)
Kepler	0.837***	-0.080	-1.524***	0.183*	-0.078	-0.099	-0.005
	(0.256)	(0.247)	(0.577)	(0.096)	(0.148)	(0.236)	(0.455)
Mercer	0.243	2.388***	2.799***	-0.150**	0.495	-0.363***	0.019
	(1.230)	(0.806)	(1.019)	(0.073)	(1.616)	(0.093)	(1.648)
Other	0.905***	-0.622**	0.247	0.237	-0.160*	-0.077	0.000

	(0.278)	(0.278)	(0.326)	(0.160)	(0.092)	(0.061)	(0.041)
PwC	0.805***	-0.237	-0.702	0.187***	-0.101	-0.082	-0.003
	(0.277)	(0.269)	(0.461)	(0.059)	(0.126)	(0.185)	(0.324)
Towers	-0.228	-1.132***	-0.994***	0.012	-0.167	0.158	-0.003
	(0.268)	(0.253)	(0.367)	(0.072)	(0.133)	(0.105)	(0.280)
Constant	-5.406***	3.886**	3.141				
	(1.407)	(1.546)	(2.529)				
Industry effects	Yes			Yes			
Observations	1,931			1,931			
Log-likelihood	-1,834			-1,767			
Pseudo R-squared	0.230			0.263			

Note: The table presents the results of multinomial logistic regression of performance measures in compensation contracts against EPS volatility, TSR volatility, and control variables in Columns 1 to 3. All results are relative to the base category of "EPS and TSR jointly". "TSR vol" is the three-year volatility before plan adoption, "EPS vol" is the three-year volatility in EPS before plan adoption. Marginal effects of the impact of volatilities and control variables on choice of performance measure in compensation contracts for Columns 1 to 3. Marginal effects represent the effect of a unit change in the variable on the probability of an outcome (EPS, TSR, EPS and TSR, Neither EPS nor TSR) and are reported in Columns 4 to 7. ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively, and robust standard errors are reported in parentheses and include industry fixed effects.

In addition to multinomial logit coefficients and the levels of significance, we also show the marginal effects, evaluated at the mean, of a change in the independent variable in Columns 4 to 7 of Table 4. The marginal effects indicate the relative importance of each explanatory variable in predicting the probability of each event. For a dummy variable, marginal effects indicate how much the probability of the use of a particular category of performance measure will change with a change in a dummy variable; for a continuous variable, they indicate how much the probability will change with a one-unit change in the value of the independent variable. In Table 4, Column 4 reveals that the estimated marginal effect of EPS volatility on TSR only is 0.035. This implies that an increase of 1 unit in 3-year earnings per share volatility raises the probability of choosing TSR only by 3.5 percentage points. The results in Column 5 show that a 1-unit increase in 3-year EPS volatility results in a 2.6 percentage point decrease in the probability of choosing EPS only as the performance criterion; this result is statistically significant at the 1% level. These results are in line with the optimal contracting hypothesis that the more volatile a performance measure is, the less likely it is to be used. Consistent with Banker and Datar (1989), volatility in EPS impacts the choice of performance measure. Nevertheless, from Column 6, EPS volatility is not associated with the probability of choosing EPS and TSR jointly.

In Table 4, Column 6, the coefficient on TSR volatility for choosing EPS and TSR jointly is positive and statistically significant at the 1% level, so that a unit increase in 3-year TSR volatility is associated with a 78.3% increase in the probability of EPS and TSR jointly being selected. This shows that TSR volatility is an important factor in the selection of EPS in conjunction with TSR in compensation contracts. However, 3-year TSR volatility is not significant in influencing the choice of EPS only as shown in Column 5. This suggests that TSR alone is not viewed as a reasonable way to control for noise, consistent with Holmström (1982), and that high TSR volatility is countered by using EPS and TSR jointly as a guard against volatility in any one measure. The inclusion of an accounting measure in firms with higher values of TSR volatility, therefore, helps to filter some noise in TSR.

The results in Column 4 indicate that when remuneration advisors HNBS, Kepler and PwC provide advice to firms, the probability of selecting TSR only as a performance measure is 18.4, 18.3 and 18.7 percentage points higher respectively than for Deloitte. However, relative to Deloitte, none of the other consultants shows a preference for EPS-contingent plans, as shown in Column 5.

By contrast, in Column 6, which relates to the choice of EPS and TSR jointly, only Mercer has a significant coefficient, so that the choice of Mercer is associated with a 36 percentage point reduction in the probability of selecting EPS and TSR jointly. Finally, in Column 7, relating to the choice of "neither EPS nor TSR", none of the coefficients is significant. This is interesting, since it shows that the institutional isomorphism identified above pertains only to the issue of selecting TSR only.

There is an interesting contrast in the effects of volatility on the choice of performance measures: whereas in Columns 4 and 5, they are strongly significant in influencing the likelihood of EPS alone or TSR alone being selected, in column 7 they play no role in the likelihood of "neither EPS nor TSR" being selected. Likewise, corporate governance factors and remuneration consultants do not significantly influence the probability of choosing the "neither EPS nor TSR" category. This clearly highlights the significant impact of volatility on the choice of EPS only and TSR only.

Summarizing the results from the marginal effects, of the four categories, some consultants prefer the use of TSR alone in compensation contracts. Firms with highly volatile TSR prefer to choose "EPS and TSR jointly" as a performance measure. One possible explanation is even if TSR is volatile, firms still use TSR along with an accounting measure to filter out noise in the market-based measure. The use of EPS and TSR jointly is influenced by firm size and is not specific to particular consultants.

4.2.1 Robustness

In this section, we subject the previous results to a variety of robustness tests, as presented in Tables A2 to A5 in the Appendix. We employ different measures of volatility: we use basic EPS and basic TSR volatilities instead of using cumulative EPS and cumulative TSR volatility in Columns 1 to 3 in Table A2, as many long-term incentive plans employ basic EPS as a performance measure. However, in Columns 4 to 6 of Table A2, we also introduce industry-adjusted EPS and TSR volatility as a benchmark for the volatility measure. The negative relationship between the choice of EPS as a performance measure and EPS volatility still holds and firms with high values of TSR volatility are again likely to choose TSR over EPS and TSR jointly. The third robustness test, in Table A3, includes the use of time fixed effects, whereas Table A4 presents the results when we use total assets to replace sales. Lastly, in Table A5 we include EPS along with measures of net income. The results remain largely the same as in the original results and provide evidence in line with optimal contracting theory.

5 Design of Compensation Contracts in the UK

Every performance measure has lower and upper threshold targets: for minimum vesting, firm performance needs to pass the lower threshold, and for full vesting, firms must meet the upper threshold target, as specified in the executive compensation contract. Vesting refers to the easing restrictions on ownership of shares, meaning that executives can now transfer or sell the shares they are entitled to. For example, in a standard three-year long-term incentive plan, if the performance-contingent shares are offered in 2012, then executives can vest their shares in 2015 based on the subsequent achievement of performance targets. The amount of shares vesting depends upon where firm performance lies between the lower and upper thresholds. The value of these awards is usually determined by the share price on the day the share vests. Usually, from the date of the grant, executives have ten years before options or restricted stock shares lapse.

TSR is usually measured relative to a sector, or an index or a bespoke (i.e. hand-picked) group which the firm chooses. Frequently, the minimum reward is triggered if the firm's growth in TSR ranks in excess of the median (50th percentile) group of companies in their comparator group, and for full vesting of equity, a firm's TSR growth should usually rank in the upper quartile (75th percentile) relative to the comparator group over the three-year performance period. Vesting between these two limits is usually on a straight-line basis.

Generally, firms use either EPS absolute growth or EPS growth in excess of the Retail Price Index (RPI). EPS is most commonly expressed as a compound annual growth rate (CAGR) over a three-year performance period. As an example of EPS thresholds, a typical minimum performance hurdle is 3% p.a. (i.e. 9% over the performance period). The firm needs to have a minimum threshold of an average growth rate of 3% p.a. in order for the CEO to vest 25% of the equity. In order to get a maximum payout (100%) of the equity, firms typically have to exhibit an average growth rate of 6% p.a. (i.e. 18% over the performance period). Some firms use EPS growth benchmarks against RPI or CPI.

5.1 Market-Based Measures

5.1.1 Peer Group Choices for TSR Only Contracts

Once firms decide to use market-based measures in their compensation contracts, the next key step is to select the peer group against which to compare their own performance. The Directors' Remuneration Report Regulations 2002 requires companies to disclose the peer firms used in determining executive compensation.

Table 5: Market-based performance targets and relative benchmarks in long-term incentive plans

Market-based Measure	PSPs	Share options	Matching plans
Relative to TSR			
Bespoke (Disclosed)	614	25	56
Bespoke (Not Disclosed)	13	0	0
Bespoke index	142	5	17
Bespoke sector	25	0	13
Bespoke sector and index	36	6	0
Index	566	54	49
Sector	83	1	8
Sector and index	168	6	25
TSR (Underpin)	11	4	0
Absolute TSR			
Target share price	38	8	5
TSR absolute growth	63	13	22
Total	1759	122	195

Note: The above table indicates the respective number of plans that use market-based measures in remuneration contracts. "Bespoke" indicates when group members are hand-picked by the firm. "Sector" and "index" indicate the use of a specific sector or index, respectively, as a comparator group (e.g., the FTSE 250 Support Services Index). "Bespoke sector" indicates the use of a peer group of companies from a specific sector (e.g., oil companies). "Bespoke index" refers to the use of specific companies from an index (e.g., choosing the 51st to 150th firms in the FTSE 350 as ranked by market capitalization). "Bespoke sector and index" is the use of self-selected firms from both a sector and an Index (e.g., the FTSE All Share Media companies excluding FTSE 100 participants). "Sector" indicates the use of specific sectors as a comparator group (e.g., Media/Mining). "Absolute TSR" refers to the absolute growth in total shareholder returns. "Target share price" refers to the achievement of a specific target share price. "TSR underpin" refers to when it is used as a precondition with another performance measure.

Table 5 shows a breakdown of benchmarks relating to TSR as a performance measure. The results indicate that 34.1% and 32.2% of the plans use bespoke (disclosed and undisclosed) and index TSR, respectively, to proportion the vesting of equity compensation in all long-term

incentive plans. It is easier for firms to choose indices, as this requires less effort than the self-selection of peer groups. However, choosing the right peer group is crucial, otherwise it will introduce volatility to the payout, eventually demotivating executives.[7] On the other hand, only 4.7% of firms use TSR absolute growth as a performance measure within their equity plans. The results also show that it is more common for TSR to be subject to comparison with a peer group than a specific rate of increase (i.e. absolute TSR growth) in all types of long-term incentive plans. One possible explanation is that absolute TSR does not take into account the general movements in the market and is not a true reflection of firm's performance (Barty and Jones, 2012). Infrequently, some firms also use a specific share price figure in their long-term incentive plans. Only 9.6% of plans use both sector and index together as a relative benchmark.

Next, we analyze the comparator groups within the components of long-term incentive plans, where we find that many firms use bespoke peer groups in their plans. We further break down the different market indices to study the various peer groups used in long-term incentive plans.

Table 6: Comparator Groups (Indices) Used in TSR Plans

Index	PSPs	Share options	Matching plans
FTSE Small Cap	115	8	17
FTSE 100	102	3	4
FTSE 250	277	18	20
FTSE 350	32	12	5
FTSE All Share	22	7	0
Others (HSBC /Morgan Stanley)	18	6	3
Total	566	54	49

Note: The table summarizes the comparators used by companies to benchmark their own TSR performance. "FTSE 250" refers to the firms in the FTSE 250 UK Index; similarly, "FTSE 100", "FTSE 350" and "FTSE Small Cap" refer to the firms in the FTSE 100, FTSE 350 Index and FTSE Small Capitalization Index, respectively. "Others" refers to firms that use alternative categories of the index (e.g., HSBC/Morgan Stanley Index). Firms may have more than one plan, each of which may reference a different comparator group.

Table 6 shows that 47.1% of the plans in the sample use the FTSE 250 peer group. Only 16.3% of plans choose TSR relative to the FTSE 100 Index, and, interestingly, 20.9% of the plans are identified as using FTSE Small Cap as a peer group, so that the FTSE 250 peer group is the most widely used comparator group in compensation contracts.

5.1.2 Vesting Levels in TSR-Based Contracts

After making the choice of performance measure and peer group, firms choose payouts at different levels of performance. While it is common for US companies to have a maximum payout between 100% and 200% of base salary, the payout policy for UK firms rarely exceeds 100% of base salary. According to the IVIS guidelines, vesting conditions in performance measures should be fully transparent, explained and linked to the achievement of shareholder value (IVIS, 2013).[8]

[7] This is discussed in more detailed by Kapinos et al. (2014) in the industry paper titled "Relative Total Shareholder Return (TSR) Plan Design Across the Atlantic", Available online: https://www.radford.com/home/insights/articles/2014/relative_tsr_plan_design_across_the_atlantic.asp [accessed on July 21, 2016].

[8] https://www.ivis.co.uk/media/5887/ABI-Principles-of-Remuneration-2013-final.pdf [accessed 20 June, 2019].

Table 7. TSR Based Plans

Panel A: The distribution of vesting levels at median threshold and upper quartile targets in long term incentive plans

Median threshold vesting level	PSPs	Share options	Matching plans	Upper quartile vesting level	PSPs	Share options	Matching plans
0.00%-10.00%	44	4	16	50.01%-60.00%	0	0	0
10.01%-20.00%	217	3	46	60.01%-70.00%	32	0	4
20.01%-30.00%	1303	72	117	71.01%-80.00%	161	6	28
30.01%-40.00%	93	26	8	81.01%-90.00%	204	17	32
40.01%-50.00%	57	10	8	91.01%-100.00%	1329	95	131
Not Disclosed	25	0	0	Not Disclosed	16	0	0
Complex	6	3	0	Complex	6	0	0
Single threshold	3	0	0	Single threshold	0	0	0
Underpin	11	4	0	Underpin	11	4	0
Total	1759	122	195	Total	1759	122	195
0% vesting	37	4	16				
25% vesting	951	45	78	100% vesting	1162	84	118

Note: Minimum vesting of awards ranges from 0% to 50% after meeting lower threshold targets. Vesting at upper quartile ranges from 60% to 100%. "Single threshold" refers to firms using only a single threshold in their plans. "0% vesting" refers to contracts which assign a zero percent vesting of equity for achieving median TSR performance. "Upper quartile vesting levels" presents the percentage of equity which vests when TSR performance is at least equal to the upper quartile of the comparator group's TSR. Most plans set 100% equity vesting if firms' performance is at least equal to the upper quartile of the comparator group. The remaining plans, where less than 100% of the equity vests at this level, are here classified as "Outperformance TSR plans" and are detailed in Panel B below. "Underpin" refers to the situation in which TSR is used as an initial indicator in conjunction with another performance measure.

Table 7.

Panel B: Outperformance TSR plans

Maximum Vesting Levels	PSPs	Options	Matching plans
Upper Quintile	177	13	17
Upper Decile	79	4	9
Outperformance Over the Index	244	21	26
Outperformance Over the Median	97	0	25

Note: Table 7, Panel B reports the breakdown of plans where the TSR performance criterion for maximum vesting is: above the upper quartile of the comparator groups' TSR.

Panel A of Table 7 shows that there is a wide variation in the percentage of equity which vests if the firm's relative TSR places it in at least the 50th percentile rank over a three-year performance period. In 2.7% of our plans, 0% of the award vests at this level. 3.1% of plans set between 0% to 10% to vest at this level, and 71.9% of plans set between 20% and 30% of equity to vest at this level. Of these, 51.7% of plans set exactly 25% of equity to vest, making it the most popular vesting level used by these firms. By contrast, in 3.6% of our plans, 50% of the award vests after meeting the median threshold level. This implies that two firms could set different minimum vesting percentages of equity at median performance relative to the comparator group, so that the firm with the lower percentage of equity vesting at the minimum vesting threshold has the tougher performance conditions, provided both use the same peer group.

The upper quartile vesting levels reveal that 65.7% of the plans permit maximum payout (full vesting) if the TSR of the company exceeds the performance of 75% of the comparator group (upper quartile) over a three-year performance period, while only 9.4% of plans allow between 70% and 80% of equity to vest after meeting upper quartile performance. This clearly suggests the presence of either normative or mimetic isomorphism, since a high proportion of firms adopt identical practices in this regard.

We also find diversity within the long term incentive plans and the presence of similar performance measures but with different comparator groups introduces a considerable variation in the median and upper quartile threshold vesting in practice, adding further complexity to the design of compensation contracts, even though vesting levels do not vary widely if we break down these long-term incentive plans.

The term "underpin" refers to a threshold or hurdle. In cases where firms have two or more performance measures, one of them may be designated as an "underpin" so that the underpin performance target must be achieved before any of the awards will vest. As an example of this, consider Dechra Pharma, which granted a LTIP in 2014 with a primary TSR target, and a EPS "underpin" performance target. The underpin EPS performance target required EPS of Dechara Pharama to be at least equivalent to at least RPI + 3% per annum over the performance period and, if this was met, the TSR performance measure with lower and upper thresholds came into operation and equity awared to executives will vest. If the EPS underpin target was not met, no equity would vest, even if the TSR upper threshold target was attained

As described above, many plans employ a standard set of TSR growth thresholds: the initial vesting threshold is set to the median of the comparator group, and the upper vesting threshold is set to the upper quartile of the comparator group. In addition to these standard settings, there are alternative upper thresholds, as shown in Panel B of Table 7. For example, Wincanton in 2010 selected an upper threshold of TSR to be greater than or equal to 20% per annum in excess of the FTSE 250 Index for maximum payout and so is included in the "Outperformance over the Index" category. In some plans, the maximum threshold is above the upper quartile of the comparator group, usually the upper quintile or decile, while some firms choose plans in which growth in TSR should be equal to the median plus an additional margin in order to trigger maximum payout. Panel B of Table 7 reveals that out of 1759 performance share plans, 244 use outperformance relative to an index in order for the maximum payout to vest. In contrast, 177 plans require firms' TSR growth relative to the group of companies to be in the upper quintile for the maximum vesting. In contrast to Zakaria (2012) and Pass et al. (2000), there has been a shift in the landscape of remuneration contracts, as firms increasingly opt for TSR performance criteria that set performance beyond the upper quartile for maximum vesting.

5.2 Accounting-Based Measures

5.2.1 Breakdown of Types of EPS

Table 8: Type of EPS plans (performance share plans/options/matching plans) in long-term incentive plans

	Adjusted EPS	Diluted EPS	Underlying EPS	Basic EPS	Cumulative EPS	Normalized EPS	Aggregate EPS	Relative RPS	Underpin	Total
EPS growth in excess of RPI	116/34/12	49/4/6	26/4/0	486/108/118	8/0/1	20/6/5	0/3/0	0/0/0	32/4/6	737/163/148
Absolute EPS Growth	83/5/15	22/2/5	15/0/8	169/38/32	17/0/0	11/0/0	2/0/0	11/0/0	0/0/0	330/45/60
Target EPS figure	59/0/7	3/2/0	17/0/0	228/32/10	24/6/9	0/0/0	17/0/0	0/0/0	0/0/0	348/40/26

Table 8 shows the different forms of EPS used by firms in their plans.

In a similar manner to the TSR targets analyzed above, EPS targets also have initial and maximum vesting thresholds, which function in a similar way. The principal difference is that an EPS target is usually measured in absolute terms rather than relative, and does not refer to a comparator group, as with TSR targets. The descriptive statistics in Table 8 indicate that different vesting levels of equity are awarded according to whether the lower and/or upper thresholds are reached.

We note from Table 8 that within long-term incentive plans, there are different definitions of EPS owing to different calculation methods; while most firms prefer basic earnings per share, 67.9% of plans use a performance target within EPS growth in excess of RPI category, whereas 54.9% employ basic earnings per share within absolute growth category. After basic EPS, the next most popular performance measure is adjusted earnings per share in excess of RPI, with 15.4% of the plans employing this, and 5.6% of plans use diluted EPS in excess of RPI as the performance criterion. “Diluted earnings per share” denotes the conversion of dilutive securities into common stock, resulting in an adjustment of the number of shares outstanding as well as earnings. Relative EPS is less common, as firms find it difficult to find a peer group for which the profit growth is similar to that of the company.

5.2.2 EPS Targets and Vesting Levels

Next, Table 9 reveals that while the minimum threshold range is relatively compressed, the upper threshold range is more dispersed, whether real or absolute terms are used. Turning first to minimum thresholds, Panel A of Table 9 reports minimum thresholds for EPS where these are stated in real terms, as an RPI + x% figure. 82.1% of all types of long-term incentive plans lie in the range of RPI + 2% p.a. to RPI + 5.99% p.a., and a small number of plans do not disclose vesting levels within their compensation contracts. Panel B of Table 9 documents the distribution of EPS absolute growth targets, as opposed to the real-terms growth targets presented in Panel A. 79% of all the plans have a minimum threshold between 2% p.a. and 7.99% p.a as can be seen in Panel B of Table 9. Turning to the upper thresholds, Panel A of Table 9 reveals that 69.6% of all plans in our sample have an upper threshold of RPI + 7% p.a. to RPI + 14.99% p.a., with a concentration in the range RPI + 9% p.a. to 9.99% p.a. These results are in line with Pass et al. (2000), who finds that EPS growth plus RPI of 2% is most commonly used in incentive plans from 1994 to 1998, and also with Zakaria (2012), whose descriptive statistics reveal that 68.1% of plans have a minimum vesting threshold in the range of RPI + 2% p.a. to RPI + 5.99% p.a. Zakaria (2012) does not disclose ranges for upper thresholds. With regard to absolute targets, in Panel B, 79.5% of all plans have upper growth targets between 7% and 16.99%. The descriptive statistics of Zakaria (2012) show that during 2002/2003, less than half of plans with EPS-based compensation contracts employed upper thresholds, showing that the use of upper thresholds has increased over time, and, overall, targets are more demanding.

Table 9 additionally presents information on the level of equity which vests at the minimum EPS target. In Panel A, which presents EPS growth in excess of RPI targets, 61.6% of the plans have a vesting range of 20.00% to 29.99%. Similar to the comparable results for TSR, minimum equity vesting has a peak at 25%, which is used by 44.5% of plans. In Panel B, concerning absolute EPS targets, 54% of plans have a vesting of 20.00% to 29.99%, and there is again a peak at 25%, used by 42% of plans. Overall, these results suggest that normative or mimetic isomorphism is not limited to the choice of performance measure but is also present in the setting of growth targets and equity vesting ranges.

Table 9. Panel A: Distribution of EPS growth in excess of RPI required for minimum and maximum thresholds (in per annum equivalents).

Minimum threshold targets (RPI + x %)	PSPs	Options	Matching plans	Maximum threshold targets (RPI + x %)	PSP	Options	Matching plans
0.01% to 0.99%	8	0	0	1.00% to 1.99%	1	6	0
1.00% to 1.99%	14	0	0	2.00% to 2.99%	3	7	15
2.00% to 2.99%	222	64	62	3.00% to 3.99%	1	1	0
3.00% to 3.99%	196	7	47	4.00% to 4.99%	24	11	20
4.00% to 4.99%	132	38	11	5.00% to 5.99%	27	10	22
5.00% to 5.99%	71	8	3	6.00% to 6.99%	39	20	10
6.00% to 6.99%	24	2	4	7.00% to 7.99%	86	29	13
7.00% to 7.99%	6	7	0	8.00% to 8.99%	46	11	0
8.00% to 8.99%	6	4	0	9.00% to 9.99%	156	27	24
9.00% to 9.99%	13	3	0	10.00% to 10.99%	45	4	7
10.00% to 10.99%	0	0	0	11.00% to 11.99%	124	4	6
11.00% to 11.99%	4	0	0	12.00% to 12.99%	27	0	14
12.00% to 12.99%	1	4	0	13.00% to 13.99%	8	21	1
13.00% and above	3	0	0	14.00% to 14.99%	64	6	7
Not disclosed	4	0	0	15.00% to 15.99%	20	2	3
No lower threshold	1	22	15	16.00% and above	31	0	0
Relative to the Index	0	0	0	Not disclosed	3	0	0
Underpin	32	4	6	Underpin	32	4	6
Minimum vesting levels				Maximum vesting levels			
1.00% to 9.99%	41	2	25	90.00% to 100.0%	737	163	148
10.00% to 19.99%	71	2	9	Not disclosed	0	0	0
20.00% to 29.99%	491	97	58	Complex	0	0	0
30.00% to 39.99%	56	20	18	Single threshold	0	0	0
40.00% to 49.99%	29	16	17	Underpin	0	0	0
Not Disclosed	14	0	0	Total	737	163	148
Complex	0	0	0				
Single Threshold	3	22	15	0% Vesting	26	2	12
Underpin	32	4	6	25% Vesting	376	77	14
Total	737	163	148				

Table 9. Panel B: Distribution of EPS absolute growth required for minimum and maximum thresholds (in per annum equivalents).

Minimum absolute threshold targets	PSPs	Options	Matching	Maximum absolute threshold targets	PSPs	Option	Matching
0.01% to 0.99%	1	0	0	4.00% to 4.99%	0	3	3
1.00% to 1.99%	0	0	0	5.00% to 5.99%	8	0	0
2.00% to 2.99%	18	8	8	6.00% to 6.99%	2	5	1
3.00% to 3.99%	21	12	17	7.00% to 7.99%	8	13	0
4.00% to 4.99%	86	6	5	8.00% to 8.99%	15	7	10
5.00% to 5.99%	78	10	11	9.00% to 9.99%	38	6	9
6.00% to 6.99%	26	0	8	10.00% to 10.99%	12	1	5
7.00% to 7.99%	19	4	7	11.00% to 11.99%	55	1	3
8.00% to 8.99%	9	0	0	12.00% to 12.99%	22	1	2
9.00% to 9.99%	28	4	4	13.00% to 13.99%	20	1	14
10.00% to 10.99%	4	0	0	14.00% to 14.99%	63	7	9
11.00% to 11.99%	3	0	0	15.00% to 15.99%	5	0	0
12.00% to 12.99%	1	0	0	16.00% to 16.99%	15	0	4
13.00% to 13.99%	0	0	0	17.00% to 17.99%	0	0	0
14.00% to 14.99%	8	0	0	18.00% to 18.99%	0	0	0
15.00% to 15.99%	7	0	0	19.00% to 19.99%	20	0	0
Not disclosed	8	0	0	20.00% and above	28	0	0
Single threshold	2	1	0	Not disclosed	8	0	0
Relative to the Index	11	0	0	Relative to Index	11	0	0
Minimum vesting levels				Maximum vesting levels			
1.00% to 9.99%	34	3	6	90.00% to 100.00%	314	45	60
10.00% to 19.99%	50	6	3	Not disclosed	10	0	0
20.00% to 29.99%	191	12	33	Complex	6	0	0
30.00% to 39.99%	26	20	6	Single Threshold	0	0	0
40.00% to 49.99%	5	3	12	Underpin	0	0	0
Not disclosed	14	0	0	Total	330	45	60
Complex	8	0	0				
Single Threshold	2	1	0	0% Vesting	29	3	2
Underpin	0	0	0	25% Vesting	144	12	27
Total	330	45	60				

Panel A and B of Table 9 present the distribution of EPS growth corresponding to the minimum and maximum threshold target range.

6 Summary and Conclusion

Using a comprehensive sample of 400 large UK firms from 2007 to 2015, we examine the influence of volatility on firms' choice of performance measures in CEO compensation contracts. We find that the choice of a performance measure is not arbitrary, but, instead, corporate governance factors and the volatility of both EPS and TSR influence that choice. These findings lend support to the optimal contracting theory, as we find that firms that have volatile EPS are less likely to employ EPS only as a performance measure than to employ EPS and TSR jointly. Also, if firms have volatile TSR, they are less likely to employ TSR only as a performance measure. These results suggest that contracts are designed optimally where CEO interests' are aligned with those of shareholders. Further, remuneration advisors and the volatility in performance measures do not influence the use of measures in the category "neither TSR nor EPS".

We find that some compensation consultants exhibit a preference for TSR, while other consultants prefer the use of EPS, so that consultant identity is an important factor in the choice of performance measures in compensation contracts, providing evidence of normative isomorphism within executives' compensation contracts. Furthermore, firms with higher sales prefer a combination of EPS and TSR as a performance measure, or key indicator of the firm's value creation. Key findings from our descriptive analysis show that firms use various types of market-based measure. Among market-based measures, the use of relative TSR is most frequent, and the FTSE 250 is the index most commonly employed in relative TSR plans. However, firms are increasingly setting stretching targets away from traditional benchmarking through the use of outperformance plans, in which maximum vesting is above the traditional median or upper quartile.

Our findings also indicate that firms use different versions of EPS and that growth in EPS can be measured in absolute terms or in terms of growth in excess of RPI. We observe that a minimum threshold range of 2% p.a. to 7.99% p.a. is most popular in plans using an EPS absolute growth target, while for plans using an EPS growth benchmark against growth in RPI, the target range of 2% p.a. to 5.99% p.a. is most popular. There is a wider spread of upper threshold targets in plans that use EPS benchmarks against growth in RPI compared with absolute EPS targets: the RPI targets are concentrated in the range RPI + 7% p.a. to RPI +14.99% p.a., while EPS absolute growth targets mostly range from 7% p.a. to 16.99% p.a. After adjusting for the effect of RPI in EPS targets, we observe that minimum and maximum thresholds are lower in absolute EPS growth targets. Since the governance codes provide no clear structure for determining the appropriate standards, we argue that this represents a case of mimetic isomorphism, in which firms copy each other's standards. From a policy perspective, we find that remuneration advisors play an influential role in contract design and there exist many forms of isomorphism, which arise from hiring consultants, selection of performance measures, the setting of targets and the payout level. The regulatory bodies could give some guidelines to firms so they select appropriate peers in TSR based contracts and also, set appropriate growth targets and relative vesting percentages in earnings based contracts.

Appendix Table A1 Definition of Variables

Dependent Variable	Definition
Performance measure	0 if long-term incentives consist of EPS and TSR jointly, 1 if firms' incentive grants have only a TSR condition, 2 if firms' incentive grants consist of an EPS measure exclusively and 3 if firms' incentive grants contain neither EPS nor TSR conditions
Independent Variables	
TSR vol	The standard deviation in stock returns, three years before plan adoption
EPS vol	The standard deviation in EPS growth, three years prior to the plan adoption
Market to book ratio	Book value of the common equity divided by the market value of the common equity
Firm age	Firm age is defined as the year the firm was founded and is a proxy of firm maturity. It is the natural logarithm of the difference between the years in consideration[9] and the year in which the firm was founded plus one
Tenure	The natural logarithm of number of years served as the CEO and a proxy of CEO experience
Non-executive directors %	Number of non-executive directors over total number of directors on board
Board size	Total number of directors on the board
Sales	Natural logarithm of the firm's sales/turnover

[9] In the case of our study, the sample is from 2007 to 2015. Thus, for example, for a firm which was founded in 2008 and the year of consideration being 2010, the firm age is (2010-2008+1) = 3.

Table A2: Initial Robustness tests

Multinomial logistic model estimating the probability of the use of particular categories of performance measures in compensation contracts

	Model 1 (Basic EPS Volatility and TSR Volatility)			Model 2 (Industry adjusted EPS and TSR Volatility)		
Variable	**TSR**	**EPS**	**Neither earnings nor TSR**	**TSR**	**EPS**	**Neither earnings nor TSR**
EPS vol	0.008***	-0.014**	0.005	0.070**	-0.299***	0.009
	(0.002)	(0.006)	(0.004)	(0.033)	(0.105)	(0.050)
TSR vol	-0.397***	-0.178	-0.095	-3.749***	-0.560	-1.203
	(0.122)	(0.156)	(0.142)	(0.765)	(0.517)	(1.167)
Market to book	0.001	-0.002	-0.057**	0.0014	-0.001	-0.059**
	(0.004)	(0.004)	(0.025)	(0.004)	(0.005)	(0.025)
Board size	1.394***	0.795***	0.161	1.359***	0.869***	0.135
	(0.320)	(0.305)	(0.427)	(0.322)	(0.309)	(0.425)
Non-executives%	0.022***	-0.020***	-0.013	0.022***	-0.022***	-0.013*
	(0.005)	(0.005)	(0.008)	(0.005)	(0.005)	(0.008)
Ln (Sales £'000)	-0.371***	-0.039	-0.219***	-0.342***	-0.025	-0.210**
	(0.060)	(0.059)	(0.082)	(0.059)	(0.060)	(0.082)
Ln (Free Cash Flow)	0.533**	-0.575***	-0.121	0.535***	-0.655***	-0.054
	(0.215)	(0.196)	(0.313)	(0.204)	(0.208)	(0.304)
Ln (Tenure)	0.162**	0.232***	0.225*	0.165**	0.207***	0.225*
	(0.067)	(0.076)	(0.127)	(0.067)	(0.075)	(0.127)
Ln (Firm Age)	-0.354***	0.150**	-0.409***	-0.346***	0.132*	-0.402***
	(0.063)	(0.074)	(0.121)	(0.063)	(0.075)	(0.120)
Constant	-4.990***	3.195**	3.261	-4.969***	3.650**	2.947
	(1.446)	(1.434)	(2.272)	(1.395)	(1.496)	(2.229)
Industry effects	Yes			Yes		
Consultant effects	Yes			Yes		
Observations	1931			1931		
Log likelihood	-1834			-1844		
Pseudo R-squared	0.23			0.23		

Note: Multinomial logistic regression of performance measures in compensation contracts against EPS volatility, TSR volatility and control variables. All results are relative to the base category of "EPS and TSR jointly". Robust standard errors are reported in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively. Industry-adjusted TSR vol is the standard deviation of firms' stock returns growth minus the mean standard deviation of stock returns growth of the industry over the three-year period before plan adoption and EPS vol is standard deviation of firms' EPS growth minus the mean standard deviation of EPS growth of the industry over the three-year period before plan adoption.

Table A3: Additional Robustness tests

Multinomial logit model estimating the probability of the use of particular categories of performance measures in compensation contracts with time dummies

Variable	TSR	EPS	Neither TSR nor EPS
EPS vol	0.117***	-0.138**	0.049
	(0.021)	(0.062)	(0.033)
TSR vol	-3.185**	-1.247	-1.311
	(1.330)	(1.073)	(1.206)
Market to book	0.000	-0.002	-0.059**
	(0.004)	(0.004)	(0.025)
Board size	1.348***	0.840***	0.144
	(0.321)	(0.306)	(0.425)
Non-executives %	0.025***	-0.019***	-0.012
	(0.005)	(0.006)	(0.008)
Ln (Sales £'000)	-0.361***	-0.034	-0.217**
	(0.058)	(0.060)	(0.085)
Ln (Free Cash Flow)	0.524***	-0.705***	-0.136
	(0.203)	(0.219)	(0.361)
Ln (Tenure)	0.218***	0.273***	0.254*
	(0.0683)	(0.079)	(0.132)
Ln (Firm Age)	-0.318***	0.148**	-0.382***
	(0.064)	(0.074)	(0.121)
Constant	-4.990***	3.195**	3.261
	(1.446)	(1.434)	(2.272)
Industry effects	Yes		
Consultant effects	Yes		
Observations	1931		
Log likelihood	-1827		
Pseudo R-squared	0.23		

Note: This table shows the results of multinomial logistic regression of performance measures in compensation contracts against TSR volatility, EPS volatility, and control variables. All results are relative to the base category of "EPS and TSR jointly". Robust standard errors are reported in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

Table A4: Additional Robustness tests

Multinomial logit model estimating the probability of the use of particular categories of performance measures in compensation contracts (using total assets as a proxy for firm size)

Variable	**TSR**	**EPS**	**Neither TSR nor EPS**
EPS vol	0.131***	-0.137**	0.070
	(0.023)	(0.062)	(0.038)
TSR vol	-3.521***	-1.994	-1.610
	(1.264)	(1.256)	(1.547)
Market to book	0.000	-0.005	-0.063**
	(0.004)	(0.005)	(0.025)
Board size	0.655**	1.561***	0.357
	(0.325)	(0.334)	(0.443)
Non-executives %	0.013**	-0.010*	-0.010
	(0.005)	(0.005)	(0.007)
Ln (Assets)	-0.322***	-0.052	-0.253**
	(0.069)	(0.062)	(0.099)
Ln (Free Cash Flow)	0.119	-0.287	-0.194
	(0.170)	(0.263)	(0.438)
Ln (Tenure)	0.241***	0.224***	0.273**
	(0.065)	(0.072)	(0.126)
Ln (Firm Age)	-0.321***	0.174**	-0.386***
	(0.063)	(0.075)	(0.120)
Constant	-4.969***	3.650**	2.947
	(1.395)	(1.496)	(2.229)
Industry effects	Yes		
Consultant effects	Yes		
Observations	1931		
Log likelihood	-1845		
Pseudo R-squared	0.23		

Note: This table shows the results of multinomial logistic regression of performance measures in compensation contracts against TSR volatility, EPS volatility, and control variables. All results are relative to the base category of "EPS and TSR jointly". Robust standard errors are reported in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

Table A5: Additional Robustness tests

Multinomial logit model estimating the probability of the use of particular categories of performance measures in compensation contracts (inclusion of EPS along with income measures in earnings category)

Variable	TSR	EPS	Neither TSR nor earnings
Earnings vol	0.129***	-0.109**	0.048
	(0.023)	(0.055)	(0.035)
TSR vol	-3.858***	-2.070	-1.672
	(1.133)	(1.130)	(1.447)
Market to book	0.000	-0.001	-0.045**
	(0.004)	(0.004)	(0.021)
Board size	1.266***	0.730**	0.014
	(0.321)	(0.305)	(0.410)
Non-executives %	0.025***	-0.021***	-0.009
	(0.005)	(0.005)	(0.008)
Ln (Sales)	-0.361***	-0.018	-0.168**
	(0.058)	(0.060)	(0.080)
Ln (Free Cash Flow)	0.551***	-0.721***	-0.083
	(0.204)	(0.222)	(0.319)
Ln (Tenure)	0.204***	0.222***	0.231*
	(0.066)	(0.075)	(0.123)
Ln (Firm Age)	-0.336***	0.102	-0.439***
	(0.061)	(0.073)	(0.117)
Constant	-4.969***	3.650**	2.947
	(1.395)	(1.496)	(2.229)
Industry effects	Yes		
Consultant effects	Yes		
Observations	1964		
Log likelihood	-1885		
Pseudo R-squared	0.23		

Note: This table shows the results of multinomial logistic regression of performance measures in compensation contracts against TSR volatility, EPS volatility, and control variables. All results are relative to the base category of "EPS and TSR jointly". Robust standard errors are reported in parentheses. ***, **, * denote significance at the 1%, 5%, and 10% levels, respectively.

Data Availability Statement:

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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