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CEO Compensation: Evidence From the Field

Finance Working Paper N° 771/2021
May 2023

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Abstract

We survey directors and investors on the objectives, constraints, and determinants of CEO pay. We find that directors face constraints beyond participation and incentives, and that pay matters not to finance consumption but to address CEOs' fairness concerns. 67% of directors would sacrifice shareholder value to avoid controversy, leading to lower levels and one-size-fits-all structures. Shareholders are the main source of constraints, suggesting directors and investors disagree on how to maximize value. Intrinsic motivation and reputation are seen as stronger motivators than incentive pay. Even with strong portfolio incentives, flow pay responds to performance to fairly recognize the CEO's contribution.

Keywords: Executive Compensation, Contract Theory, CEO Incentives, Fairness, Survey

JEL Classifications: G34, G38, M12, M52

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1. Introduction

How to design executive pay is a first-order decision for every firm. Pay is critical for attracting, retaining, and motivating a CEO, and affects the wider company beyond the CEO – high pay may demotivate employees or damage a company's customer reputation. Even more broadly, CEO pay across the economy influences the public's perception of capitalism. As a consequence, CEO pay receives more attention than nearly every other routine corporate decision. Boards have dedicated remuneration committees, investors have a special "say-on-pay" vote, and pay is highly regulated.

Due to its importance, it is critical to understand how CEO pay is set. Academics typically study this question through theorists building models and empiricists testing the models' predictions. While a great deal has been learned through these methods, they have limitations. First, data only documents the outcome of an optimization problem and not the underlying program that led to it. Even if data is consistent with a model, a very different model may have generated it; thus, even if a model claims empirical support, it may not describe the actual economic mechanism. Second, many key ingredients of compensation models, such as risk aversion, are difficult to measure and thus test.

This paper anonymously surveys non-executive directors and institutional investors on how they set or influence pay. Our first goal is to understand the *objectives* and *constraints* of contract design, and thus the underlying program. Our second goal is to identify the *determinants* of pay, by investigating factors that theories deem relevant but are unobservable, or that prior models have overlooked. We distributed the survey in late 2020, receiving responses from 203 non-executive directors of FTSE All-Share companies and 159 institutional investors in UK equities. Most questions allowed respondents to add free-text comments, and we conducted 14 post-survey interviews. The answers reveal several interesting results, organized into four groups, that point towards a more complex model of CEO pay than currently used in the academic literature:

Objective and constraints

Our first question asks respondents to rank the importance of three goals when setting CEO pay. Only 1% of directors and 5% of investors view keeping the level of pay down as their primary goal. This contrasts with the frequent opposition to high pay from policymakers, the public, and some investors, often irrespective of the implications for CEO retention and motivation. It is, however, consistent with CEO pay being a small percentage of firm value, while hiring a subpar CEO or providing suboptimal incentives has potentially large effects. 65% of directors view attracting the right CEO as most critical, while 34% prioritize designing a structure that motivates the CEO. For investors, these figures are 44% and 51% respectively. This reversal reflects a theme that recurs throughout our survey – directors view labor market forces, and thus the participation constraint, as more important than investors, who prioritize the incentive constraint.

However, boards feel restricted by far more than the participation and incentive constraints focused on by standard models. 67% of directors admit that they are willing to sacrifice shareholder value to avoid controversy on CEO pay – from parties such as proxy advisors, employees, and customers. Surprisingly, the strongest constraint is the need to obtain investor support, even though this should be automatic if boards are setting pay optimally. Instead, directors believe that shareholder guidelines, paradoxically, harm shareholder value. 77% report that such constraints have forced them to offer a lower level of pay, and 72% an inferior structure.

Most models of CEO pay take the "shareholder value" view that pay is set by a single principal, a shareholder-aligned board. The main alternative is the "rent extraction" view, whereby boards are captured by CEOs and thus do not seek to maximize value. However, our free-text fields and interviews suggest a third perspective – directors and investors share the same objective (shareholder value), but view the world differently. One possibility is that directors better understand the CEO labor market, whereas shareholders push for changes that would violate the CEO's participation constraint or

demotivate her ("uninformed investors"). Another is that boards overestimate the value of their CEO or underestimate their latitude to improve pay ("uninformed boards").

To help disentangle these interpretations, we ask the 77% of directors who were forced to offer lower pay about the consequences. While 7% report that the CEO left, and 13% that they hired a less expensive CEO, 41% admit that there were no adverse effects. This result is meaningful, since any self-serving bias would discourage this response. Thus, at least in some cases, boards underestimated their latitude to cut pay. However, 42% report that the CEO was less motivated, suggesting that the level of pay affects incentives, in contrast to standard theories.

Incentives and variable pay

There is greater agreement on the second set of questions – the role of financial incentives in motivating CEOs. Both boards and shareholders believe they are relevant but of secondary importance. The CEO's intrinsic motivation and personal reputation are seen as most important, yet are absent from nearly all theories. Notably, directors see CEO career concerns, the focus of a large literature, as third-order: fewer than 20% view the risk of being fired or a move to a larger firm as important motivators.

Both boards and investors believe that motivating the CEO is the main reason for offering variable pay, despite viewing financial incentives as secondary. The free-text responses and interviews suggest that financial incentives reinforce intrinsic and reputational incentives. CEOs believe it is fair to be rewarded financially for good performance; perceived unfairness would erode their intrinsic motivation. As one respondent stressed, "the retrospective acknowledgement of exceptional performance is important." An increase in realized pay also signals the CEO's performance to outsiders, boosting her reputation.

These responses suggest that incentive pay may work through different channels to standard models. In these models, the CEO improves firm value only if her utility from consuming the resulting pay increment exceeds the effort required – the contract offers sufficient *consumption incentives*. Our

respondents instead suggest that a CEO does not need the extra pay to finance consumption, but believes it is fair to be recognized for a job well done – variable pay provides *ex-post recognition*.

The importance of ex-post recognition has two implications. First, it suggests that a CEO assesses her pay not only for the consumption utility it provides, but also against what she deems to be a fair reward. This fair reward is believed to be affected by at least two reference points – the CEO's contribution to the company and the pay of her peers.

Second, flow pay plays a special role not provided by portfolio incentives. In standard theories, only total incentives matter – it is irrelevant whether they stem from changes in flow pay or the value of equity holdings. Empirically, incentives from equity holdings are much greater, so standard measures of CEO incentives ignore flow pay. However, changes in flow pay provide greater ex-post recognition, because they require a discretionary decision by the board and are voted on by shareholders. They are also publicly disclosed, boosting the CEO's reputation. Thus, they may be important even if the CEO holds significant equity.

Directors and investors strongly support two other reasons for variable pay: attracting or retaining a high-ability or hard-working CEO, and for the CEO to share external risks with investors and stakeholders. The second reason is surprising and contradicts standard theories, since it implies inefficient risk-sharing. It is, however, consistent with a fairness model in which directors and investors also evaluate CEO pay relative to reference points, which for them include shareholder returns.

When asked about the split between fixed and variable pay, neither directors nor investors assign much relevance to CEO risk aversion and firm risk, the split's main determinants in standard models. This indicates a wide gulf between the models and real-world practice.

Pay levels

Our third set of results concerns the level of pay. We first ask what determines the pay of a new CEO. Both directors and investors view CEO ability as most important. Unexpectedly, pay at peer

firms is seen as more important than the new CEO's actual outside options, such as pay at her prior firm and at other firms she could move to. One explanation, supported by the free-text fields and interviews, is that peer compensation matters because it is a reference point she uses to assess whether her pay is fair.

When asked about increases in expected pay for incumbent CEOs, both directors and investors state that the primary justification is good recent performance. This is surprising given the substantial equity holdings that CEOs have, but is consistent with changes in flow pay providing ex-post recognition. Other justifications receive only minor support.

Directors also report that decreases in expected pay are rare, with 77% never having implemented one. Interestingly, while directors believe that good recent performance justifies pay increases, they do not believe that poor performance justifies decreases. Several interviewees explained that pay cuts would demotivate the CEO and, if performance were poor enough to warrant a cut, they would fire her instead. The two justifications for pay decreases with the most support are external pressure and financial constraints, likely because they are less detrimental to the CEO's sense of worth.

"Suboptimal" pay practices

Finally, we study the reasons for apparently suboptimal pay practices. The first is the limited use of relative performance evaluation. Directors support three explanations, all absent from existing theories. One is again fairness – CEOs should benefit from an upswing since investors and stakeholders do. The other two reasons are practical – it can be difficult to find suitable peers for some firms, or to observe peer performance for some performance measures. Explanations proposed by existing models, such as keeping pay competitive with peers during upswings, receive little support.

A second apparently suboptimal practice is the short-term nature of many pay incentives. Here, directors' and investors' views differ sharply. 78% of investors believe the CEO would make better decisions if incentives were more long-term. Fewer than 6% agree with each of three potential concerns

– that long-term incentives are less effective motivators, would jeopardize CEO retention or recruitment, or would require a costly adjustment in pay level. In contrast, directors view incentives as already sufficiently long-term, and only 21% believe that further lengthening would improve decisions.

Relation to the literature

This paper builds on the literature on CEO compensation, reviewed by Murphy (2013), Edmans and Gabaix (2016), and Edmans, Gabaix, and Jenter (2017). It is also related to other corporate finance surveys, such as Graham and Harvey (2001), Graham, Harvey, and Rajgopal (2005), Brav et al. (2005), Ben-David, Graham, and Harvey (2013), and Graham, Harvey, and Puri (2013). A unique feature is that we survey both directors and investors. The above papers study executives only; others, such as McCahery, Sautner, and Starks (2016), Krueger, Sautner, and Starks (2020), and Gompers et al. (2020), study investors only. CEO pay is arguably the corporate decision on which investors have the greatest influence, given say-on-pay, and thus an interesting setting to compare their views with directors.

This paper proceeds as follows. Section 2 discusses the motivation for the survey, how we conducted it, and the context of UK executive pay. Section 3 presents the results on the objectives and constraints of CEO pay design, Section 4 addresses the level of pay, and Section 5 its structure. Section 6 discusses generalizability and Section 7 concludes. The survey also included two questions on the influence of different parties in the pay setting process, which we discuss in Online Appendix A.

2. Motivation, Method and Context

2.1 Motivation: Standard Theory vs. Real-World Practice

A key goal of the survey is to guide future compensation theories. Nearly all models contain three basic elements: an objective function that is firm value net of CEO pay, a participation or individual rationality ("IR") constraint, and incentive compatibility ("IC") constraints. These elements are so

standard that they can be written down without any justification. However, they may not capture how practitioners actually set CEO pay, hence the value of a survey.

Starting with the standard objective function, it assumes that the only downside of high CEO pay is that it directly reduces shareholder value. However, it may also demotivate employees or harm the firm's reputation. Moreover, the board may have a different objective, such as winning a say-on-pay vote. Turning to the participation constraint, it binds in many models. This implies that, if a CEO's pay were reduced by $1, she would leave, which seems unlikely in practice. The incentive constraint may also not bind, if intrinsic motivation or reputational concerns are sufficient to motivate the CEO.

Considering the whole program together, it ignores many other potential constraints. Boards and CEOs do not negotiate pay in a vacuum. Norms on what investors and stakeholders deem acceptable may limit the level of pay or constrain its structure. The CEO's preferences, reflected in the IR and IC, are likely to be richer than a simple function of effort and consumption. CEOs may, for example, also care about their reputation, fairness, and being appreciated by directors and investors.

2.2 Surveys and Archival Research

The standard empirical methodology is archival research. This has several advantages, such as large datasets, objectivity, and the ability to control for multiple factors. However, it also has limitations. First, it is difficult to measure key theoretical determinants of CEO pay, such as the CEO's risk aversion and cost of effort. Even if there seems to be a natural empirical measure, it is not clear that this is the only, or even the main one that practitioners consider. For example, empiricists typically measure CEO performance using shareholder returns. However, the board and investors may also study strategic execution, non-financial factors linked to firm value (such as employee engagement and customer attrition), or environmental, social, and governance ("ESG") metrics.[1]

[1] Moreover, while academic researchers typically filter out peer performance, practitioners may also remove performance attributable to the CEO's predecessor or the company's pre-existing assets, such as its brand.

Second, even if an empirical proxy can be found, a statistical relationship could have multiple interpretations. A finding that CEO pay is sensitive to performance could be because pay is used to incentivize effort, to screen CEOs, or to ensure the CEO shares risks with investors and stakeholders. While archival research studies *what* drives pay, it cannot determine *why* these factors drive pay. Similarly, a statistical correlation may not imply causality. For example, several studies have shown that CEO pay is correlated with peer pay.[2] This may be because boards are indeed benchmarking, or because similar firms solve similar optimization problems without paying attention to peers.

Third, while archival studies have, for example, shown that negative say-on-pay votes by shareholders and vote against recommendations by proxy advisors affect subsequent CEO pay,[3] they typically cannot test whether anticipation of negative reactions affects *ex-ante* behavior. In fact, there might be few such reactions if boards change pay to comply with shareholder or proxy advisor guidelines. In contrast, a survey can simply ask whether a desire to avoid conflict shapes CEO pay.

Fourth, surveys allow us to investigate the *relative* importance of various pay determinants. For example, prior papers have individually studied the influence of proxy advisors, the media, and compensation consultants, on CEO pay; we include all of them in the same question. Even if archival research includes several factors in the same regression, the one with least measurement error may appear to be most significant. As a result, the survey responses we offered are guided by what academic research and our beta-testers suggested are most important, irrespective of how well they can be measured. For example, we include firm size as a potential determinant of pay so that we can compare it against less observable factors such as CEO performance and ability.

Fifth, while archival research can study whether a particular factor affects pay, a survey can elicit whether its impact stems from either directors or investors (or both) perceiving it as important.

[2] See, e.g., Bizjak, Lemmon, and Naveen (2008) and Cremers and Grinstein (2014).
[3] See, e.g., Ferri and Maber (2013) and Brunarski, Campbell, and Harman (2015) on say-on-pay votes, and Ertimur, Ferri, and Oesch (2013) on "vote against" recommendations.

Exploring this is useful because any misalignment between directors and investors would be interesting; moreover, if the relative power of directors over investors changes (e.g., through changes in legislation or institutional ownership), this may change the importance of different factors.

Finally, archival studies may be limited by the "academic paradigm," i.e., restricted to what existing research suggests is relevant. A survey that includes free text fields and is accompanied by interviews can uncover new determinants of CEO pay that have not previously been documented.

The survey methodology itself has limitations, which we have endeavored to attenuate. First, respondents may interpret questions differently to how we envisaged. We engaged in extensive beta-testing of the survey and provide free-text fields to detect any persistent misinterpretations. Second, Friedman's (1953) "as if" critique is that contract designers may act in accordance with a theory but be unable to articulate it. We thus do not test complex theories where the mechanisms are so intricate that respondents may not be conscious of them. Conversely, respondents may give answers consistent with economic theory not because it describes their views but because of what they learned in business school; however, many theories are contradicted. Respondents may also choose a response simply because it sounds logical. We reduce this risk by not providing rationales. For example, when exploring the determinants of incentives, we offer "how risky the firm is" rather than "the riskier the firm is, the weaker incentives are as they expose the CEO to too much risk." While the latter might identify the mechanism more precisely, a respondent might score it highly because the explanation seems sensible.

Third, respondents may misreport their answers. In addition to guaranteeing anonymity, we tried to not ask questions that would likely lead to misreporting. For example, we did not ask directors why pay is so high, as this may prompt rationalizations even if pay were unjustified, but instead asked what would happen if pay were reduced. Finally, similar to archival research, our questions may be limited by the "academic paradigm." We addressed this concern by having a practitioner coauthor, beta-testing

the survey to see if we had omitted important factors, and including free-text fields. If the free-text fields systematically suggested a response outside our set of options, we explored it in interviews.

2.3 The UK Context and Covid-19

We study executive pay in the UK for a number of reasons. First, the UK is between the US and continental Europe in both the level and structure of pay, suggesting that it is not an outlier. While pay levels are higher in the US and lower in Europe, this can mostly be explained by firms being larger and using more incentive compensation; indeed, these differences become moderate after adjusting for firm size and risk (Conyon, Core, and Guay, 2011; Fernandes et al, 2012). The differences in the structure of pay are illustrated in Table A: in 2019, long-term incentives comprise 48% of total CEO pay in large UK firms, compared to 34% and 35% in Germany and France, and 71% in the US.[4]

Table A

Pay mix and levels, UK, US, Germany, and France in 2019

	Median CEO pay % of total ($m)			
	UK	US	Germany	France
Salary	24% (1.30)	10% (1.28)	25% (1.68)	28% (1.35)
Bonus	29% (1.58)	19% (2.54)	41% (2.77)	36% (1.74)
Long-term incentives	48% (2.64)	71% (9.54)	34% (2.28)	35% (1.69)
Total	100% (5.52)	100% (13.36)	100% (6.73)	100% (4.78)

Source: CEO Pay Landscape in Japan, US, and Europe – 2019 Analysis, WillisTowersWatson. Firms with >$10bn sales.

Second, the UK does not have any differential tax treatments that would cause a preference for one form of pay over the other (unlike, for example, Section 162(m) in the US which before 2018 exempted qualified performance-based pay from the $1 million cap on tax deductibility), nor do accounting or disclosure rules have material asymmetric impacts. Thus, any findings are unlikely to be due to tax, accounting, or disclosure factors that are specific to the UK.

[4] This comparison exaggerates the US-UK differences, because US bonuses are paid entirely in cash, while in the UK, typically half of the bonus is paid in deferred shares. If these were counted as long-term incentives, the proportion of UK CEO pay attributable to long-term incentives would exceed 60%, well above typical European levels (where deferred bonuses are less common) and closer to the US.

Third, the UK has a relatively settled regulatory regime surrounding executive pay, and UK investors have significant experience in evaluating, voting on, and engaging on CEO pay. The UK was the first country to introduce say-on-pay in 2003, which inspired similar requirements in the US and Europe, particularly in the EU where the Shareholder Rights Directive follows the binding and non-binding vote regime that has applied in the UK since 2014. There has also been growing convergence across the globe in other regulations, disclosure requirements, and the behavior of investors and proxy advisors, with major investors setting expectations on pay and voting in an increasingly consistent manner in both the US and Europe. Moreover, a number of pay practices, such as performance-based long-term incentive awards and relative performance evaluation, first became widespread in the UK before becoming prevalent elsewhere.

Fourth, on a practical level, the authors are from well-known UK universities, increasing the likelihood that UK directors and investors would respond to an academic survey. Similarly, the authors' names are known to many UK directors and investors, also increasing the response rate.

We believe that most of our conclusions will generalize to other countries. Not only are UK pay levels, structures, and disclosures not an outlier, but the UK regulatory regime has been mimicked elsewhere. That being said, there remain differences between the UK and other countries; for example, options are used far less than in the US. We thus did not ask questions on topics where the UK may be an outlier (e.g., the mix of stock vs. options). Section 6 discusses in more detail which results are likely to generalize to other countries and which may not.

Two areas where the UK differs from the US (but not necessarily the EU) are the details of the say-on-pay regime and the importance of a governance code. Every three years, a UK board's Remuneration Committee (RemCo) is required to put its remuneration policy to a binding "policy vote." This sets the framework within which the RemCo must make pay decisions. Every year, these decisions are put to a non-binding "implementation vote." In contrast, US firms are only required to

hold a non-binding implementation vote at least once every three years. UK RemCos are also constrained by the 2018 revision of the UK Corporate Governance Code (the "Code") and investor guidelines; violations can lead to significant voting opposition. For example, the revised Code requires the pension contributions for executive directors to be aligned with the wider workforce. Before 2018, CEO pensions had contribution rates of up to 50% of salary, while employee schemes were below 10%, so the Code led to large reductions for CEOs.

The survey was carried out in the context of the COVID-19 pandemic, in which many firms reduced CEO pay. COVID-19 and the recent history of pension reductions enable us to study the impact of pay cuts, which are otherwise rare. To reduce the risk that responses were skewed by COVID-19, none of our questions focused on recent events, but on the objectives, constraints, and determinants of pay in general, e.g., "Do you filter out industry conditions from all performance measures?" rather than "Did you filter out the impact of COVID on performance?" Section 6 discusses the extent to which our results may have been influenced by the timing of the survey.

Online Appendix C provides additional context plus stylized facts on UK CEO pay.

2.4 Survey Design and Delivery

We benefited from extensive feedback on our questions before launching the survey. We presented the questions to academic audiences and sent them to leading researchers. We sent several drafts to the UK government's department of Business, Energy, and Industrial Strategy, which has significant experience in administering surveys. We beta-tested the survey with directors, investors, and compensation consultants to ensure that they were interpreting the questions as we intended, that the survey was not too long (our target was 15 minutes), and that we were not missing key dimensions. Most of these beta tests occurred via Zoom, where the practitioners answered the questions aloud, so we could observe how they were interpreting them.

We launched the survey in November and December 2020. To encourage responses, we donated £100 for each completed survey (up to a total of £25,000) to the UK's National Health Service COVID appeal, and offered respondents the option to receive a draft of the working paper before its public release.[5] We administered the survey using the Qualtrics online platform, offering respondents a generic (rather than individualized) link to guarantee their anonymity. Except for the demographic questions, we randomized the order of responses within each question.

We surveyed two types of respondent. The first was non-executive directors of FTSE All-Share companies (excluding investment trusts), which we identified from CapitalIQ and BoardEx; we attempted to contact every director. This contrasts with other approaches that involve handing out surveys at conferences or relying on alumni networks, which could lead to selection biases. The second was investors in UK equities, both asset managers and institutional asset owners. Within an asset manager/owner, there are both fund managers and governance specialists (otherwise known as "stewardship" or "responsible investment" specialists). The latter coordinate voting and engagement across the asset manager/owner's funds.

We attempted to contact every fund manager of all UK equity funds listed on Trustnet, a comprehensive database of funds offered in the UK.[6] We also emailed the main contact for responsible investing at all signatories to the UK Stewardship Code[7] and at members of the UK Sustainable Investment and Finance Association. For most, the listed contact was a stewardship specialist such as a Head of Responsible Investment; for others, it was a Chief Investment Officer ("CIO"), fund manager, or analyst. Online Appendix C provides further details on our distribution procedure.

[5] To opt in to receive the draft, after completing the survey, participants were invited to add their email address. This final step was optional; approximately half the respondents filled it in. Many respondents were not identifiable from their email.
[6] The Investment Association, the UK's trade body for the investment industry, classifies 394 funds as UK equity funds in three main sectors: UK All Companies, UK Smaller Companies, and UK Equity Income. Trustnet provides information on 383 (97%) of these funds.
[7] Asset manager and asset owners who sign up to the voluntary UK Stewardship Code pledge to exert governance on their investee companies. Nearly all major investors in the UK are signatories, not just ESG investors.

In total, we contacted 1,312 non-executive directors of 421 firms and 556 investors at 231 asset managers or asset owners. We obtained responses from 203 directors and 159 investors; 170 (132) answered every question. This corresponds to a response rate of 15.5% for directors (13.0% who answered every question) and 28.6% (23.7%) for investors.[8] This compares favorably with response rates of 4-15% for the survey papers referenced in Section 1. We then interviewed 14 respondents to explore the reasons behind their responses. The interviewees were selected because they filled in several free text responses and to create a mix of investors (asset managers and asset owners, and fund managers and governance specialists) and directors across industries.

Table OA1 presents summary statistics on the director respondents. 39% were from the FTSE 100, 36% from the FTSE 250 (the next 250 largest firms), and 22% from the FTSE Small Cap index. 27% of respondents were board chairs, 33% RemCo chairs, and 24% other RemCo members. Table OA2 shows that the industry breakdown is representative of the FTSE All-Share index. The responses were similar across subsamples, including sector, size of company, and director role. We therefore tabulate aggregate results and highlight in the text cases where there were variations across subsets.

Table OA3 contains summary statistics for the investor respondents. 80% were from asset managers, 8% from asset owners, and 13% from hybrids, such as pension funds. 52% of respondents were governance specialists, 26% fund managers, 8% stock analysts, and 6% CIOs. Where there is no confusion, we will use "fund managers" to encompass these last three categories. Fund managers are primarily evaluated according to investment returns, while governance specialists may be more sensitive to the societal consequences of pay. However, the responses from fund managers and governance specialists were generally similar, as were responses from investors with different levels of assets under management. We will highlight the few cases where they differed.

[8] The results presented are based on all responses, but do not change materially if we only include respondents who answered every question.

3. The Objectives and Constraints of CEO Pay Design

3.1 Objectives

Our first set of questions aims to study directors' and investors' objectives and the constraints they are operating under. The standard CEO pay model described in Section 2.1 involves three objectives, assuming a given effort level: (1) minimizing the level of pay subject to (2) the structure inducing the required effort level (i.e., the IC being satisfied) and (3) the CEO accepting the contract (i.e., the IR being satisfied). While it is widely accepted that these are the three primary goals of a contract, practitioners' views of their relative importance have not been studied. Accordingly, our first question asks respondents to rank them ("Rank the importance of the following goals when setting CEO pay").

Table 1 illustrates the results. Both directors and investors view minimizing the level of pay ("keep the quantum of pay down") as least important, with 91% of directors and 85% of investors ranking it last.[9] This is surprising given the frequent pushback against high pay from policymakers, journalists, the public, employees, and investors, often irrespective of its implications for CEO retention and motivation.[10] It is, however, consistent with "shareholder value" models where the CEO's talent (Gabaix and Landier, 2008) and effort (Edmans and Gabaix, 2011) have multiplicative effects on firm value, making attracting and motivating a talented CEO highly valuable, especially for large firms, where CEO pay is a small percentage of value. Moreover, the low relative importance of pay restraint does not mean that it is irrelevant in absolute terms; indeed, future questions will show that both directors and investors view the quantum of pay as important, mostly because of external constraints.

[9] "Quantum" is the term most commonly used by UK practitioners for the level of pay, and target quantum is equivalent to expected pay, i.e., salary and benefits plus target bonus and the grant-date value of equity awards.

[10] For example, Legal & General Investment Management, the largest UK asset manager, annually publishes "LGIM's UK principles of executive pay." Every year from 2019 to 2022, the longest section was on quantum and stressed "the current social sensitivities around pay inequality … the board should consider the wider impact of executive pay, e.g. upon the general workforce, public perception, the economic climate and government bodies."

65% of directors and 44% of investors view hiring and retention ("attract/retain the right CEO") as most important, while 34% of directors and 51% of investors rank the structure of pay ("design a structure that motivates the CEO") most highly. These average rankings are significantly different between directors and investors at the 1% level. This reflects a theme that recurs throughout the survey – directors perceive labor market forces, and thus the participation constraint, as crucial, while investors assign greater importance to the incentive constraint.

There are two potential reasons for this divergence. The first is that directors and shareholders have different objectives. One possibility is that shareholders wish to maximize shareholder value but the board is captured by the CEO, or does not wish to exert effort to restructure pay or recruit a new CEO – and cites competitive pressures as an excuse. In addition, because the board is undiversified, it may not push for a contract that improves shareholder value but risks leading to a CEO departure. We use "weak boards" to capture all these reasons. A second possibility is that shareholders do not wish to maximize shareholder value. Asset managers may maximize fund flows, which requires reflecting client concerns about CEO pay even if non-value-maximizing.[11] Alternatively, investors may maximize value across their portfolio and thus take externalities into account – for example, lowering pay at one firm may make it easier to lower pay at others (Acharya and Volpin, 2010; Dicks, 2012).

The second explanation is that both boards and investors have the same objective – shareholder value – but disagree on how to maximize it. This disagreement may stem from two sources. One is "uninformed investors" – investors may underestimate labor market pressures, the complexity of the CEO job, the value created by a CEO, or the difficulty in replacing a CEO. Even if the participation constraint is slack, investors may be unaware that reducing pay may demotivate the CEO by making her feel unfairly treated. Boards may better understand these issues, potentially because most directors have executive experience, while many investors do not. Several free text responses from directors

[11] See Dasgupta, Fos, and Sautner (2021) for a survey of the literature on flow-concerned asset managers.

supported this view. One noted: "Good people are leaving the plc [public limited company] world for private equity in droves. Fund management companies should not throw stones."[12] The other source of disagreement is "uninformed boards" – directors may underestimate their latitude to restructure pay, or the depth of the CEO labor market in case the CEO leaves as a result. Later responses show that investors believe many boards to be weak or uninformed.

3.2 Constraints

Our next set of questions studies whether directors and investors perceive constraints over and above the IR and IC considered by standard theories. Table 2, Panel A asked directors "How large a sacrifice in shareholder value would you make to avoid controversy on CEO pay?", and investors the analogous "how large a sacrifice in shareholder value would you tolerate firms making to avoid controversy on CEO pay?"[13] (For brevity, for future questions we will include the analogous wording for investors in only the results table, not the main text.)

Notably, 67% of directors would sacrifice shareholder value to avoid controversy, and 56% of investors would tolerate directors doing so.[14] This suggests that boards and investors feel restricted by far more than the IR and IC. To the respondents who would tolerate a sacrifice, Panel B asked about the sources of controversy: "How important is it to avoid controversy with the following parties?" This, and most remaining questions, are scored according to a Likert scale, with -2 representing "not at all important", 2 representing "very important", and 0 being neutral.[15] We will often report results

[12] Potentially suggestive of uninformed investors, particularly governance specialists, this is one of the few questions to which fund managers and governance specialists responded differently. 64% of fund managers ranked "attract/retain the right CEO" and 36% "design a structure that motivates the CEO" as most important – almost exactly matching directors.
[13] The question emphasized "sacrifice in shareholder value" because avoiding some controversies may be value enhancing (e.g., avoiding a customer boycott). In beta-testing, we verified that respondents interpreted the question as intended, which was also confirmed by some free-text responses ("creating a balance of commercial reality weighed against ethics and stakeholders is bound to have a degree of controversy" and "'doing the right thing' is what motivates our action – and sometimes that's controversial").
[14] Investors may tolerate directors sacrificing shareholder value, as investors themselves may suffer reputational damage from being associated with a company viewed as paying its CEO excessively.
[15] The response labels for each question are shown in the relevant table. The survey numbered the options 1 to 5, but we report them as -2 to 2, such that 0 is neutral.

in the form "x%/y", where x is the percentage of respondents who selected 1 or 2, i.e., important or very important, and y is the average rating. For brevity, we will use "important" to refer to "important or very important". Also to avoid cumbersome prose, we will sometimes say "our results suggest that x" rather than "our results suggest that directors and investors believe that x"; however, it is important to bear in mind throughout that our survey only reports directors' and investors' perceptions.

The results show that 88% of directors view it as important to avoid controversy with investors; this response also received by far the highest average rating (1.24). This finding is surprising. With symmetric information and objectives, controversy with investors would be avoided by maximizing, not sacrificing, shareholder value. Directors would simply offer the optimal contract and investors would agree that it is optimal. Instead, paradoxically, directors believe they have to sacrifice shareholder value to satisfy shareholder requirements. One director wrote that "shareholders appoint RemCos and then often seek to micromanage their duties." This suggests that directors and investors disagree on what the optimal contract is.

Directors rated employees as the second most important source of controversy (63%/0.69), consistent with concerns about internal equity that we will revisit later. The third highest was proxy advisors (48%/0.45), consistent with their strong influence over shareholder votes documented by Malenko and Shen (2016). Like the "investors" result, this high score is interesting, as proxy advisors should be acting in shareholders' interest. Instead, they may not be maximizing shareholder value, perhaps because they impose one-size-fits-all rules (Iliev and Lowry, 2015; Cabezon, 2022; Jochem, Ormazabal, and Rajamani, 2021). Indeed, 71% of directors believe that proxy advisors influence pay more than they should (see Table OA5).

Shareholders, on the other hand, believe the main sources of controversy to be employees (82%/1.26), customers (75%/1.14) and policymakers (65%/0.92).[16] This is consistent with high CEO pay causing outrage and with investors viewing such outrage as costly (Jensen and Murphy, 1990; Bebchuk and Fried, 2004).[17] Notably, 44% of shareholders rated "other investors" as an important source of controversy, suggesting that investors disagree on the optimal contract. Both directors and investors ranked the media as least important. Consistent with this, neither Core, Guay, and Larcker (2008) nor Kuhnen and Niessen (2012) find an effect of negative press coverage on the level of pay, although the latter show that it affects its composition.

3.3 Constraints and the Level of Pay

We next explore whether the constraints from avoiding controversy have consequences, focusing on the level of pay in this subsection and its structure in the next. Because these questions are about the actual CEO pay contracts offered, we asked them to directors only.

Table 3, Panel A studies whether constraints affect the level of pay ("Have any of the following ever caused you to offer a lower quantum of CEO pay than you would like?"). In addition to external constraints, we also included two internal ones. The first is "restrictions from our existing approved pay policy," given investors' binding policy vote. The second is "unwillingness to deviate substantially from how we have paid in the past," given the potential influence of history.

77% of directors reported that at least one of these non-standard constraints has forced them to offer lower pay than they would like. 60% offered less pay to avoid the "risk of investor opposition,"

[16] While prior research has documented the influence of legislation on pay (see the surveys of Murphy (2013) and Edmans, Gabaix, and Jenter (2017)), we are unaware of evidence that the desire to avoid controversy with policymakers affects pay. For example, if UK policymakers believe that a CEO has been overpaid, a House of Commons Select Committee might call up the board chair, RemCo chair and major investors to explain why they allowed this to occur. This happened to UK banks following the financial crisis, and more recently to Persimmon and Carillion following pay scandals.

[17] Bebchuk and Grinstein (2005) argue that a relaxation of outrage constraints due to a booming stock market helps explain the rise in US CEO pay between 1993-2003, and that paying in options avoided outrage as they could be justified as incentive mechanisms.

and 53% to avoid the "risk of 'vote against' recommendation from a proxy advisor." A minority feel constrained by the existing pay policy (44%), the need to avoid controversy with employees, the media, customers, or policymakers (37%), or past pay practices (28%).

To the 77% of directors who answered "Yes" to at least one constraint, Panel B asked "Did this lower quantum ever lead to the following consequences?" In many "shareholder value" models, CEOs are at their participation constraint, so the only possible outcome is that the current CEO leaves or (for firms with a vacancy) the firm hires someone cheaper. However, only 7% reported that the CEO left, and 13% that they hired a less expensive CEO.

By far the most popular responses are not predicted by standard theories. 42% of directors reported that "the CEO was less motivated." In standard models, motivation depends only on the sensitivity and not level of pay. When the CEO chooses whether to work, she calculates the marginal disutility of effort and compares it to the marginal increase in consumption utility ($u'(c)$, where c is consumption) from increasing effort. Instead, the free text responses (both to this and subsequent questions) and interviews suggest that pay may matter *per se*, not just for the extra consumption utility that it can buy, because the CEO compares it to what she believes is fair; if she is paid unfairly, she is demotivated and reduces effort. As one director said about the consequences of a lower quantum of pay, "[the CEO] still did the job, but his morale was affected negatively." Another wrote: "There is first a test of pay fairness by the CEO, then after that, it is about building reputation" – reputational concerns incentivize CEOs to perform, but only if they first believe their pay to be fair.

These responses are consistent with Akerlof's (1982) "gift exchange" efficiency wage model, Akerlof and Yellen's (1990) "fair wage-effort hypothesis", and Hertzberg's (1959) view that fair pay is a "hygiene factor" that demotivates if not provided. They also align with a large literature in labor economics showing that, when employees perceive their wage as unfair, they become demotivated.[18]

[18] See Fehr, Goette, and Zehnder (2009) for a review of this literature.

Formally, "fair" pay is pay that exceeds one or more reference points. This suggests that the CEO's utility may be of the form $f(w,\boldsymbol{X})$, where f is a function, w is the CEO's wage, and $\boldsymbol{X}$ is a vector of reference points that determine what she believes to be fair. For example, $f(w,\boldsymbol{X}) = w - \gamma_1 \max(x_1-w,0) - \gamma_2 \max(x_2-w,0) - \ldots$ would imply that the CEO's pay must exceed all reference points, else she perceives it as unfair and suffers a utility loss. The dependence on w highlights how the CEO's utility depends on the wage per se, rather than the consumption it enables. Future questions will shed light on what these reference points are.

The second-most reported effect of lower pay was "there were no adverse consequences" (41%). This high frequency is meaningful – response bias would work against directors admitting that external pressures led to a value-creating action that they would not have taken otherwise. Thus, in many cases, directors had greater latitude to cut pay than they thought, consistent with weak or uninformed boards. There are two caveats to this interpretation. One is that some reductions in CEO pay were caused by the COVD-19 pandemic or by coordinated pressure on executive pensions (see Section 2.3), which reduced pay across the market. Lowering pay in isolation may have had adverse consequences. A second is that uncertainty may have made boards' unwillingness to cut pay ex-ante optimal due to a high (100% - 41% = 59%) likelihood of negative effects. This is particularly the case if retaining and motivating the right CEO are more important than the level of pay, as reported in Table 1.

3.4 Constraints and the Structure of Pay

We next investigate how these non-standard constraints affect the structure of pay. Table 4, Panel A asked "Have any of the following ever caused you to offer an inferior structure of CEO pay to what you would like?" Similar to pay levels, boards perceive binding constraints. 72% of directors were forced to offer an inferior pay structure, mostly because of proxy advisors (54%) or investors (54%).

To the 72% of respondents who selected "Yes" to at least one constraint, Panel B asked "Was the structure inferior in the following ways?" 69% responded that they had to "follow market practice

more," likely to comply with one-size-fits-all rules applied by investors or proxy advisors. For example, one director said his board "could have used more creative non-standard vehicles but didn't." This echoes Cabezon (2022), who shows that US pay packages have become more homogenized.

65% of directors were forced to offer less upside for good performance. This is interesting since investors, the main source of constraints, view motivating the CEO as important (Table 1). Investors might believe too much upside has perverse consequences, or they might be concerned that employees or customers may object to high pay even if justified by performance. 57% of directors were forced to use more performance conditions. An interviewee complained that different investors have different objectives, and each asks for a performance condition to reflect theirs.

In free-text entries and interviews, several directors and investors explained that they would prefer to pay CEOs like owners, providing large equity stakes, small annual bonuses, and no long-term incentive plans (LTIPs). This would entail unlimited upside and no performance conditions, violating some of the above constraints. Many investors stated that other investors or proxy advisors would object because such a scheme does not fit their models. One director wrote that "we have held off changing from LTIPs to share award schemes for some of the above reasons." Another pointed out that private firms use large equity stakes, but when they go public, they are instantly benchmarked to other public firms and have to offer bonuses and LTIPs "because this is what everyone else does."

3.5 Summary

Our questions on the objectives and constraints of pay yield the following conclusions:

1. Directors view attracting and retaining the CEO (satisfying the IR) as the most important goal of pay, while investors believe that motivating the CEO (satisfying the IC) is more important. Both view reducing the level of pay as least important.

2. Boards feel constrained by far more than just the IR and IC. 67% of directors would sacrifice shareholder value to avoid controversy on CEO pay, and 56% of investors would tolerate directors doing so.
3. Directors view avoiding controversy with investors as the main constraint, suggesting that boards and shareholders disagree on the optimal contract. Directors also view proxy advisors as a significant constraint; directors and especially investors view avoiding controversy with employees as important.
4. These additional constraints matter. 77% of directors were forced to offer a lower level of pay. 41% of directors admitted that doing so had no adverse consequences, while 42% stated that it reduced the CEO's motivation. The latter is inconsistent with standard models, but is consistent with CEOs being demotivated by "unfair" pay.
5. The additional constraints forced 72% of directors to offer an inferior pay structure. This typically involved less tailoring and reduced upside for good performance.

4. The Level of Pay

This section studies the determinants of the level of pay. We investigate the pay of a new CEO upon appointment (Section 4.1) separately from subsequent increases (Section 4.2) and decreases (Section 4.3). Section 4.4 analyzes whether boards and investors believe the level of pay can be cut.

4.1 Pay of a New CEO

Table 5 asked "How important are the following factors in determining the target quantum of pay for a new CEO?", and aims to capture the determinants of the ex-ante expected value of pay.[19] "The

[19] In the academic literature, the level of pay refers to the ex-ante expected value $E[w]$, but this concept is not easy to translate into practitioner terminology. In beta-testing, the "level" of pay was interpreted as realized pay, in which case it is mechanically linked to factors such as CEO ability, as a high-ability CEO will hit bonus thresholds. "Expected pay" was interpreted as the amount of pay that the CEO expects to receive, i.e., believes she deserves. The beta-testing revealed that

new CEO's ability" was the most popular response for both directors (85%/1.29) and investors (90%/1.49), consistent with talent-based models such as Gabaix and Landier (2008) and Terviö (2008). Perhaps less expected were the high responses to "how attractive our firm is to run (e.g. prestige, risk, complexity)".[20] Many critics of high pay believe that the CEO job involves little disutility, so it should not be a significant driver of pay. In contrast, this response was the second most popular option for investors (61%/0.61) and third for directors (68%/0.76). In several free-text fields and interviews, directors stressed how difficult the CEO job is – involving extremely long hours, being constantly in the media, and facing pressures not faced by other executives.

"CEO pay at peer firms" was the second most popular response for directors (66%/0.82) and third for investors (49%/0.46). Notably, both ranked it higher than "the new CEO's pay in their previous position" (42%/0.26 for directors and 23%/-0.21 for investors) and "the new CEO's other employment options" (58%/0.55 and 43%/0.26), which more directly reflect the CEO's outside alternatives. This suggests that pay at peer firms is important beyond the participation constraint, and is relevant even if the CEO could not move to those firms, e.g., due to there being no vacancies. Several interviewees argued that CEOs use the peer comparison to deduce the *worth* the board and investors attach to them. One director wrote that "relative competition (why does he earn more than me?) is very significant as an issue of pride." Thus, peer pay may determine what the CEO views as fair and be a reference point included in $\boldsymbol{X}$. Investors viewed all three of the above determinants as less important than directors, consistent with them placing less weight on labor market conditions.

The free-text fields highlighted an additional determinant of pay absent from most models – internal equity considerations. One director emphasized the importance of "the multiple of the CEO

"target quantum" best captured $E[w]$. In addition, at the start of the "Level of Pay" section, we stated "In this survey, the quantum of pay should be taken to refer to the target level of total remuneration set by the remuneration committee."

[20] Prestige and complexity aim to capture both the non-pay benefits and difficulties, i.e., the net disutility, of the CEO's job. Both free-text fields and interviews only referred to prestige and complexity, not risk. This is consistent with Focke, Maug, and Niessen-Ruenzi (2017) and Albuquerque, Albuquerque, Carter, and Dong (2022), who find, respectively, that CEOs of prestigious firms earn less and that risk has little effect on the level of pay.

pay to the average within the company"; another responded that "internal proportionality is most important." Several investors made similar statements.

4.2 Increases in Pay for an Incumbent CEO

Table 6 asked "What causes you to increase the target quantum of pay for an incumbent CEO?" As with the prior question, there was general agreement between directors and investors. Both rated "good recent CEO performance" the highest, with support of 76%/0.98 from directors and 75%/1.05 from investors. While intuitive, it may seem unnecessary to reward high performance with increased target pay, given that almost all CEOs have substantial equity holdings. Empirically, the incentives from changes in pay levels are so small compared to those from CEOs' equity holdings (Hall and Liebman, 1998) that they are typically ignored when calculating incentives.

The free text responses and interviews suggest that pay rises are used to provide *ex-post recognition* of performance. A fund manager explained in an interview that pay rises are important to acknowledge good performance, and that no talented person stays in a job where she does not feel appreciated. Another pointed out that a pay rise is so small compared to firm value that it costs the company very little. Thus, if the CEO is denied it, she infers that the board and shareholders do not value her highly and may be demotivated or leave.[21]

These findings help us refine the notion of fairness used by CEOs. Existing research on fairness does not differentiate between flow pay and changes in wealth: fairness models are silent about where a fair reward should come from; in experimental settings, subjects have no pre-existing wealth and only receive flow pay. If flow pay and changes in wealth are fungible, fairness concerns would not necessitate pay increases, since a CEO's equity already rises upon good performance. Our results suggest that changes in flow pay play a special role by addressing CEOs' desire for *recognition*. A pay

[21] Another explanation is to retain the CEO if good performance increases her outside options. However, the support for "increased threat of CEO leaving" (43%/0.25 for directors and 30%/-0.06 for investors) was much lower.

increase, unlike the revaluation of equity, provides internal recognition because it requires a discretionary decision by the board and approval by shareholders. It provides external recognition because it is observable and thus boosts the CEO's reputation. Several interviewees explained that a pay rise is a more public endorsement than the revaluation of equity, since it is disclosed as part of the "single figure."[22] This is consistent with Maslow's (1943) hierarchy of needs, which argues that once physiological needs are satisfied, higher-order needs such as self-esteem become important. The former can be satisfied by pay regardless of its visibility, but the latter is provided by publicly observable discretionary decisions.

These responses also suggest that the CEO's perception of her contribution to the firm determines another reference point included in $\boldsymbol{X}$. This is also a potential micro-foundation for why CEOs might have higher discount rates than shareholders – not because they need current pay for consumption, but because changes in pay affect their perceptions of fairness and recognition.

All other responses received less than 50% support from both directors and investors. The second most common response from directors was "increases in firm size" (46%/0.37; 45%/0.17 from investors). Some free-text comments and interviewees argued that size matters because of complexity, consistent with the findings of Gayle and Miller (2009). Others explained that CEOs benchmark their pay against peers of similar size to assess whether it is fair. As one director argued, "benchmarking gives comfort that there's fairness, transparency, and objectivity." This might be because firm size and peer pay are more observable than other potential determinants of pay, such as CEO talent or disutility, so linking pay to them gives the CEO comfort that pay is set fairly.

[22] Firms are required to disclose total realized pay, known as the "single figure," which includes salary, annual bonus, and cash and equity earned as part of LTIPs. Equity earned is based on when performance conditions are tested and may not yet be paid out, since there may be additional holding periods. New grants of equity are disclosed separately, together with the performance conditions that govern their vesting.

Directors ranked "increases in pay at peer firms" (44%/0.26) significantly higher than investors (27%/-0.17), consistent with directors being more attuned to labor market pressures or the importance of fairness in motivating CEOs. Some investors were strongly opposed to responding to increases in peer firm pay. Both sets of respondent considered peer firm pay far less important for changes in pay of an incumbent than for the pay of a new CEO. This is consistent with Kahneman, Knetsch, and Thaler's (1986) evidence on the reference point employees use to assess whether pay is fair – peer firm pay for new hires, and last year's pay for incumbents.

The low responses to "other changes that reduce the attractiveness of the pay package (e.g. adding holding periods)" (-0.11/28% for directors and 0.01/30% for investors) are surprising since, in theory, it is the value of the entire package that needs to exceed the CEO's outside option. An interviewee explained that the components of CEO pay are negotiated in isolation, consistent with narrow framing. The board and CEO negotiate base salary first, then the incentive components, and then restrictions such as holding periods. It is therefore unlikely for the CEO to accommodate a board's demand for longer holding periods by asking for an increase in the already-negotiated base salary.

Several free-text entries stressed that significant increases in the level of CEO pay are difficult. Many directors believe that large pay increases risk controversy, unless justified by a visible change to the size or complexity of the firm. One explained that "It is pretty much impossible to increase the target pay of an incumbent CEO in the UK. It might be possible with a large acquisition that changes the scale and complexity substantially"; another stated "substantial increases would only come if the job gets markedly bigger/more complex."

In the same vein, and consistent with the free-text responses accompanying Table 5, several free-text entries argued that it is difficult to increase CEO pay significantly faster than overall workforce pay. This suggests that fairness concerns also matter for directors and investors, either because they themselves believe that a disproportionate increase would be unfair, or because employees or external

stakeholders would view it as unfair and respondents want to avoid controversy. Thus, their perceived cost of compensation may be $w + g(w,\boldsymbol{Y})$ where g is a function and $\boldsymbol{Y}$ is a vector of reference points (different from $\boldsymbol{X}$), such as worker pay, CEO pay in peer firms, or last year's pay.

4.3 Decreases in Pay for an Incumbent CEO

We now turn to decreases in pay. We first asked directors in Table 7, Panel A, "Have you ever significantly decreased the target quantum of pay for an incumbent CEO?" Only 23% of directors responded "Yes." Combined with the difficulty of significantly increasing pay, this suggests that CEO pay is sticky, and that directors' decision variable is the change in pay rather than the level, analogous to the findings of Lintner (1956) and Brav et al. (2005) for dividends. We interviewed directors to understand why pay cuts are so infrequent. One stated that if there were ever a justification for cutting the CEO's target pay, you would instead fire her. Another director explained that a pay cut communicates that the board has downgraded its assessment of the CEO, and a third said that, as a consequence, cutting a CEO's pay is effectively firing her. This suggests that another reference point in $\boldsymbol{X}$ is the prior year's pay, consistent with Kahneman, Knetch, and Thaler's (1986) evidence.

To the respondents who answered "Yes", Panel B asked "What caused you to decrease the target quantum of pay for an incumbent CEO?" Here, unlike for increases, there was significant disagreement between investors and directors. The five factors that standard theories predict should drive reductions in pay (poor performance, decreases in firm size, changes in attractiveness at your firm, changes in attractiveness at other firms, decreases in pay at peer firms) were the five least popular options for directors, all with negative average ratings. In contrast, investors believe that these five factors should drive both increases and decreases in pay, as theory predicts.

One potential explanation for this disagreement is that investors are less concerned about the motivational or retention consequences of pay cuts. Investors' most popular reason to cut pay was poor CEO performance (70%/0.96), even though such a cut may erode the CEO's sense of worth. CEOs

may also view pay cuts because of changes at peer firms or their own job getting easier as unfair, as these changes are out of their control. Recall, however, that directors view increases in peer firm pay and job complexity as valid justifications for pay rises. This asymmetry echoes Garvey and Milbourn (2006), who find that CEOs are rewarded for good luck but not penalized for bad luck.

Directors' three most common reasons to cut pay had no analogy in the question about increases. The most popular response (46%/0.15, versus 27%/-0.28 for investors) was "external pressure to reduce pay." The free-text responses highlighted two recent causes of external pressure – the COVID-19 pandemic, and the controversy about executive pensions. A second popular reason was "your firm encountering financial constraints" (51%/0.07 for directors, 58%/0.53 for investors).[23]

A third, and unexpected, justification to cut pay was "the CEO requesting it" (41%/-0.37).[24] While contrary to almost any model, it can be justified by the CEO having a sense of fairness or wanting to pre-empt controversy. One director wrote: "I was the incumbent CEO and asked for a reduction to reflect reduced complexity and intensity of role." Another director said that it should not be up to the board to be tough on pay; a CEO should be tough on her own pay to show that she is sensitive to the environment. Taking these three reasons together, directors see pay cuts as plausible if they can be attributed to external pressures or financial constraints, or are requested by the CEO. Unlike cuts in response to bad performance, such cuts do not challenge the CEOs' sense of her worth.

In their free-text responses, several investors stressed another justification for pay decreases absent from standard models – that pay is simply too high, and thus cuts are justified even without any change in circumstances: "the total compensation is unreasonably high", "the quantum of pay was insanely high relative to anything – a formula gone wrong." In shareholder value models, pay is always set

[23] This response differed according to firm size (35%/-0.50 for directors in the FTSE 100 versus 78%/1.00 for the FTSE Small Cap), consistent with tighter financial constraints and CEO pay being a larger fraction of profits in smaller firms.
[24] We did not offer this response to investors as the CEO would make such a request to the board, not to them.

optimally, so it should only change when parameters change. In contrast, many investors believe that pay was not optimal to begin with. There were no such responses from directors.

4.4 Why Is CEO Pay So High?

Our final questions on the level of pay aim to understand why CEO pay is so high. This is difficult to ask directly, as directors may claim CEO ability or market forces as justification. We thus asked "If your firm reduced the target quantum of pay of its next CEO by 1/3 compared to its current CEO, what might happen?" We focused on CEO changes as this is when a board has greatest flexibility to reset pay. We chose a cut of 1/3 because it is larger than typical reductions in a transition yet not entirely implausible. In the vast majority of companies, it would still leave the CEO the highest-paid employee.

The responses, reported in Table 8, show a significant disparity between directors and investors. Only 10% of directors agreed that "there would be no adverse consequences" (average score -0.96). Their strongest concern was "we would recruit a lower quality CEO" (59%/0.66). Several free text entries emphasized that reducing the pay of one firm in isolation without corresponding reductions in the market would be dangerous. This indicates that directors believe the CEO labor market to be competitive and the talent supply to be limited, consistent with prior evidence that many firms struggle to replace CEOs who unexpectedly depart (e.g., Jenter, Matveyev, and Roth, 2022).

Directors' second greatest concern was "the CEO would be less motivated" (46%/0.38). This is consistent with Table 3, Panel B, and again suggests that the level of pay has motivational consequences missing from standard models. Just over half agreed that "it would create undesirable pay compression between the CEO and other executives" (51%/0.36), another concern absent from most models, which focus on CEO pay in isolation.

One potential explanation is that compression reduces tournament incentives (Lazear and Rosen, 1981; Kale, Reis, and Venkateswaran, 2009). However, free-text fields and interviews cited this reason only once. Instead, they suggested that pay disparity is required for fairness. One interviewee explained

that "the more you do for the company, the more you should be paid; if the CEO isn't doing more, she shouldn't be CEO." Another highlighted that CEOs are under more pressure and public scrutiny than other executives. A third explained that reduced pay disparity would "disrupt the natural order of things and the hierarchies within the organization," and that this applies beyond the CEO. If a CFO were paid less than the commercial director, even if dictated by market forces, the finance function would view itself as less important. Thus, while prior responses suggest that directors want CEO pay to not exceed certain levels, such as a multiple of worker pay, these additional fairness concerns imply that pay should also not fall short of other reference points, such as a certain premium to other top executives.

In contrast, investors are much more open to cutting CEO pay than directors. Their most popular response was that "there would be no adverse consequences" (33%/-0.02, with 35% neither agreeing nor disagreeing). Fewer than a quarter agreed with each of the negative consequences. Thus, many investors believe it is possible to reduce CEO pay by as much as 1/3. Several explained that, even if the board ends up recruiting a different CEO, she would be less materialistic rather than less capable. A fund manager claimed that "CEOs should not just be motivated by quantum of compensation – that suggests they have the wrong person;" a governance specialist stated that "[the CEO] might have a hissy fit … then the board should reconsider if this person is appropriate for the role."

Investors' view that CEO pay is often unjustified was also reflected in their responses to "Do you believe the overall level of CEO pay is too low, too high, or about right?", reported in Table OA4. 77% of investors view pay as too high. We asked these 77% why it is too high, and 86% agreed that "boards are ineffective at lowering it even though they should." Thus, many investors view CEO pay as excessive, and they blame boards for it.

4.5 Summary

Our questions on the level of pay yield the following conclusions:

1. Directors believe that a significantly lower level of pay would markedly worsen the quality and motivation of the CEO. Lower pay reduces motivation because the CEO perceives it as unfair, in contrast to standard models.
2. Many investors, in contrast, see few adverse consequences of lowering pay, even if done by one firm in isolation. Instead, they view a CEO transition as an opportunity to reset the level of pay. 77% of investors believe that pay is too high, which they attribute to boards being weak.
3. Both investors and directors believe that good recent performance should increase expected pay, even though most CEOs have substantial incentives from their equity holdings. Pay increases are important because CEOs care about the ex-post recognition of their performance.
4. Directors view themselves as not starting from a blank sheet of paper. They believe it is difficult to increase pay, and even more difficult to decrease pay, in response to firm-specific changes or changes in the outside option. In contrast, investors believe that such changes should drive both increases and decreases in pay.
5. Ability is seen as the most important determinant of a new CEO's pay. The (dis)utility of a CEO job is another important driver, suggesting significant cross-sectional variation.
6. Pay in peer firms affects new CEO pay even more than the CEO's alternative employment opportunities and the pay at her prior job. This is because peer firm pay affects what the CEO views as fair, rather than because of labor market competition.
7. CEO pay levels are affected by internal comparisons. Directors and investors believe there should be a substantial gap to other top executives, but also that the gap to the wider workforce should not be too large.

5. The Structure of Pay

This section studies the structure of pay. Section 5.1 asks what directors and investors believe motivates a CEO, Section 5.2 why companies offer variable pay, and Section 5.3 how they determine the split between fixed and variable pay. Sections 5.4 and 5.5 explore why two key predictions of theory are not always implemented – long-term incentives and relative performance evaluation.

5.1 What Motivates a CEO?

Table 9 asked "What motivates your CEO to perform strongly?" Most models assume that financial incentives are the only motivator. However, while the support for "incentives from bonuses, LTIPs, equity, or future pay increases" was high (76%/0.98 for directors and 68%/0.83 for investors), it was only the third highest-rated response from both groups.

Instead, directors and investors agree that by far the strongest drivers of CEO effort are "intrinsic motivation" (92%/1.55 for directors and 91%/1.50 for investors) and "personal reputation" (91%/1.40 and 96%/1.60). Both are absent from the vast majority of contract theories.[25] Personal reputation scored highly even though we offered separate responses capturing the financial benefits of an improved reputation (pay increases and labor market consequences). This suggests that simply being seen to do a good job is important. An investor said that "There is a common misperception that pay or career progression motivates CEOs to do a good job. [Performance] comes from intrinsic motivation, passion for the job, and maybe a concern with reputation."

The free-text responses suggest that the main purpose of incentive pay is to provide ex-post recognition of performance, and that incentive pay interacts with intrinsic motivation and reputational

[25] Some exceptions exist. In Carlin and Gervais (2009), the agent is intrinsically motivated to increase firm value; in Besley and Ghatak (2005), Bettignies and Robinson (2018), and Murdock (2002), effort generates social welfare, which the agent is intrinsically motivated to increase. Bénabou and Tirole (2003) study how extrinsic incentives affect intrinsic motivation, but not the reverse. Under a broad interpretation, a low cost of effort could capture high intrinsic motivation, but it does not capture any intrinsic drive of the CEO to achieve specific goals.

concerns (we will use "intrinsic incentives" as an umbrella term for both). The CEO values incentive pay not because she needs it to afford consumption – as one investor stressed, "all CEOs are going to take care of most human needs in terms of finances" – but because it provides recognition that she has performed well. One director stated that "primary motivation comes from inside, but pay is important as a signal to the CEO and the market of the value placed on them by the board."

"The quantum of pay" (55%/0.55 for directors, 37%/0.21 for investors) is seen as another important motivator, inconsistent with most theory models but consistent with the importance of fairness. One director explained that "principle and sense of fairness tends to matter a lot."

Finally, even though career concerns have been a focus of the literature on CEO incentives since Fama (1980), they are not seen as important, especially by directors. "The potential to move to a bigger firm" received support of only 18%/-0.53 from directors (46%/0.37 from investors), and the "risk of being fired" of only 11%/-0.88 (25%/-0.20).[26] The lack of incentives from a potential upward move is consistent with the fact that incumbent CEOs are rarely hired away (Cziraki and Jenter, 2022).[27] In relation to firing risk, one interviewee explained that boards hire CEOs that are confident in their ability to succeed, so they are not motivated by firing risk.

5.2 The Motivation for Variable Pay

Table 10 asked "Why do you offer the CEO variable pay?" Practitioners interpret "variable pay" as elements of flow pay that are sensitive to performance, and thus do not include the CEO's equity holdings. The most popular response was "to motivate the CEO to improve long-term shareholder value" (89%/1.46 for directors and 87%/1.36 for investors). Thus, even though directors and investors

[26] The latter result is not due to CEO turnover in the UK being unusually low. Burns, Minnick, and Starks (2023) find a CEO turnover rate of 14% for large publicly traded UK firms in 2004-2016, while Jenter and Lewellen (2021) report a rate of 12% for US S&P 1,500 firms in 1993-2011. In 2018, the CEO turnover rate in large UK companies was 14% (Robert Half: "CEO turnover in decline as internal candidates rise to the top") vs 14.7% in North America (PwC: "CEO turnover at record high").

[27] Surprisingly, upward moves are seen as even less important (7%/-0.62) by FTSE Small Cap directors, even though CEOs of smaller firms are more likely to be hired away.

believe that intrinsic incentives are the main motivators, financial incentives are seen as important. Free-text fields and interviews suggested two reasons. First, intrinsic incentives may be insufficient, and financial incentives may reinforce them – in contrast to common arguments that they crowd them out. As one interviewee explained, only a "superhuman" CEO would be willing to perform at her very best without financial incentives.[28] Second, intrinsic incentives may lead to CEO actions that do not increase firm value. Examples given include increasing the scale of the business, R&D for scientific curiosity, or designing the highest-quality product even if a low-cost strategy would be better.[29]

The popularity of this response is interesting also because many CEOs have substantial equity holdings. Thus, even if financial incentives are needed, it is not clear why they need to be provided by variable pay. Interviews and free text fields provided three explanations. First, pay incentives are different from portfolio incentives because they provide recognition. Directors explained that variable pay is used "so the CEO would directly and quickly feel the impact of good and (where relevant) poor short-term performance" and "to recognize achievement – the retrospective acknowledgement of exceptional performance is important."

This mechanism suggests that the role of incentive pay may be different to that assumed in standard theories. In such models, variable pay at *t=1* provides ex ante effort incentives at *t=0*. Our results suggest that variable pay may have an additional role – it ensures that the CEO is recognized at *t=1* for her actions at *t=0*, so that she remains intrinsically motivated to continue exerting effort.[30]

[28] Hartzell, Parsons, and Yermack (2010) show that even church clergy receive incentive pay, despite intrinsic motivation being presumably strong.

[29] Our respondents may also support financial incentives because they do not view them as especially expensive. Aside from crowding out or external constraints, financial incentives may be costly for two reasons. The first is limited liability rent, but high CEO salaries suggest that the CEO's limited liability constraint is not binding. The second is the risk premium required. However, Table 11 will show that CEO risk aversion and firm risk were the least popular responses for the determinants of the split between fixed and variable pay, suggesting the risk premium is minor.

[30] Fehr, Kirchsteiger, and Riedl (1993) provide experimental evidence that agents reciprocate discretionary fair pay with discretionary effort.

The second reason for offering the CEO variable pay is that it is given to other employees. One director pointed out that "variable pay is an organization wide practice … difficult to think of CEO scheme in isolation," another that "a high proportion of variable pay runs through all levels of the organization (commission at lower levels, bonuses at higher levels) and it therefore feels appropriate and a cultural alignment for the CEO to have a high mix of variable pay." While internal equity comparisons are typically about the level of pay (e.g., pay ratios), the comparison of pay structures has received less attention.

The third reason is that variable pay can be based on criteria other than the stock price. One director explained how CEOs are set business plans with key performance indicators ("KPIs"), and tying pay to these KPIs holds management accountable. He also noted that CEO actions have a greater effect on these KPIs than on the stock price. Another director argued that the company's KPIs are only credible to employees and investors if they are incorporated into the CEO's contract, and that doing so is important to create a performance culture within the firm.

The second-most popular rationale for incentive pay among investors (79%/1.14) and third-most among directors (84%/1.16) was a response strongly contradicted by theory: "so that the CEO shares risks with investors and stakeholders, even if out of the CEO's control." While this implies inefficient risk-sharing, several respondents argued that it is unfair to insulate CEOs from a downturn. Free-text fields emphasized the importance of "shareholder alignment" and "to mirror shareholder experience." One investor, in an interview, said that CEOs should be co-owners and be "there for the journey"; in a downturn, "it's not fair that I have to take the pain and you don't." Thus, one reference point in $\boldsymbol{Y}$, the vector that directors and investors use to assess fairness, may depend on shareholder returns. While a board could argue "by insulating a risk-averse CEO from downturns outside her control, we were able to pay her less in expected value terms," investors and stakeholders seem unlikely to accept this

argument – particularly since they do not see the counterfactual (more expensive) contract that would have been offered without this insurance.

A different rationale for incentive pay is screening (e.g., Lazear, 2005), which we tested with "to attract/retain a high-ability or hard-working CEO." This also received strong support (87%/1.19 from directors and 69%/0.85 from investors). We also offered a response of "to motivate the CEO to improve outcomes other than long-term shareholder value." Interestingly, it received only modest support (52%/0.46 from directors and 53%/0.47 from investors), despite ESG-linked pay becoming increasingly frequent. Respondents may believe that alignment with long-term shareholder value already causes the CEO to take stakeholders into account, or that intrinsic incentives are sufficient. One investor wrote "What kind of outcomes, other than long-term shareholder value? Do CEOs really need incentives to 'do the right thing?' " An interviewee said that ESG targets would backfire as they would cause the CEO to improve only the ESG dimensions in the contract.

Directors (49%/0.37) assigned significantly greater importance than investors (15%/-0.45) "to match[ing] peer firm practice." This highlights an interesting paradox – recall from Table 4 that directors report that investors and their advisors (proxy agencies) force them to follow market practice more than they would like. Our results here, however, suggest that many investors appreciate heterogeneity – thus, directors may have more latitude to tailor the structure of pay than they think.

5.3 The Determinants of Variable Pay

To test theory predictions for the strength of incentives, Table 11 asked "What determines the split between variable and fixed pay?" Unexpectedly, the lowest responses were "CEO personal risk appetite" (22%/-0.46 for directors and 20%/-0.45 for investors) and "how risky our firm is" (16%/-0.44 and 47%/0.29).[31] These are key drivers of incentives in classic models such as Holmstrom and

[31] Beta testing identified "risk appetite" as the best way to translate "risk aversion" into practitioner language.

Milgrom (1987) – the higher firm risk and CEO risk aversion, the greater the compensating differential the CEO requires for variable pay. However, if the motivation for rewarding good performance is recognition and fairness, this trade-off is moot; instead, pay variability is driven by what is perceived to be the fair reward for performance. This is consistent with the mixed evidence for the link between risk and incentives summarized in Prendergast (1992); the low importance of risk aversion fits its weak relationship with incentives documented by Becker (2006).

The most popular response was "how much the CEO can affect firm performance" (62%/0.66 for directors and 75%/0.98 for investors). While consistent with standard principal-agent models, their mechanism is that, if effort is less effective, the principal induces less of it as it is not worth the risk premium required to do so; thus, incentives fall. This is inconsistent with the low support for the relevance of risk, and also the evidence in Table 1 that incentives are much more important than the cost of pay. Interviews and text fields instead pointed to a different mechanism – if the CEO has a greater effect on performance, it is fair to reward her more for good performance.

The next two most popular responses from directors are not predicted by standard models: "investor or proxy advisor expectations" (60%/0.55) and "the split between fixed and variable pay in peer firms" (49%/0.37). Thus, many directors do not set incentives from first principles but follow market practice. Free-text responses included "The benchmark seemed to be set at roughly a third for each of salary, bonus & shares. 'This is what everyone else does' " and "RemCos are being increasingly forced to 'fit' genuine motivational adjustments to pay into a rigid framework […] governed by superficial numerical comparisons with other companies." Again, this is surprising given that investors claim not to consider peer firm practices as important (Table 10).

5.4 Long-Term Incentives

Classic theories of managerial myopia (e.g., Stein, 1988) highlight the erosion of shareholder value that arises if CEO pay is tied to the short-term stock price. A natural solution is to pay the CEO

according to long-term performance (Edmans et al., 2012). Even if the CEO demands a compensating differential for the greater risk, this may be outweighed by the benefits of superior decisions. However, horizons are short in practice (Gopalan et al., 2014) and lead to CEOs taking actions to boost short-term profits and stock prices (Edmans, Fang, and Lewellen, 2017; Ladika and Sautner, 2020), often at the expense of firm value (Edmans, Fang, and Huang, 2022). Table 12 studies the reasons for this apparent disconnect between theory and practice, asking "What would happen if you made the CEO's incentives more long-term?"

By far the most popular response from investors was "the CEO would make better decisions" (78%/1.14). The three responses that suggest negative consequences – "the incentives would lose their effectiveness", "we would have to pay the CEO more, which would outweigh any benefits", and "we would be unable to attract/retain the CEO we want" – all scored below -0.8, with at most 6% agreeing with each.[32] As one fund manager wrote, "This would be a win win win win win. It would weed out CEOs that are in it for a quick buck, it would focus on long-term outcomes, and it would align CEOs with shareholders. If I could have a single bullet to improve corporate governance, this would be it." Another said "We would get better alignment between CEO and owners. It is ridiculous that industries with a 5, 10, 15 year business/product cycle have a 1 and 3 year incentive program."

Directors strongly disagree. "The CEO would make better decisions" obtained the weakest response (22%/-0.40), and 63% of directors agreed with at least one of the concerns. In the free text fields, directors explained that incentives are already sufficiently long-term and that further lengthening would reduce their effectiveness. Others argued that shareholders are short-termist and would object. This discrepancy between investors' stated preferences and directors' views of those preferences is interesting and echoes the mismatch on investors' preferences for tailoring.

[32] One potential reason for the low response to the last option is that more long-term incentives may have opposite effects on attraction and retention. They may deter a CEO from joining, but once a CEO has joined they may encourage retention if forfeited upon departure (Jochem, Ladika, and Sautner, 2018).

5.5 Relative Performance Evaluation

Holmstrom (1982) showed that pay-for-performance contracts should benchmark performance against peers, to filter out fluctuations caused by external factors. This reduces the CEO's risk, lowering the cost of compensation. In their critique of CEO pay, Bebchuk and Fried (2004) highlighted the lack of relative performance evaluation ("RPE") as prime evidence for rent extraction. While recent studies show that the use of RPE is greater than in the past (see the survey by Edmans, Gabaix, and Jenter (2017)), it is far from universal.

Table 13, Panel A, therefore asked "Do you filter out industry conditions from all performance measures (e.g. by benchmarking against peers)?" 63% of directors and 75% of investors responded "No." To those respondents, Panel B asked why they do not universally benchmark. The most popular answer among directors (43%/0.44, versus 33%/0.05 from investors) was that "the CEO should benefit from an industry upswing, since investors and stakeholders do." This contradicts efficient risk-sharing, but is consistent with notions of fairness in two ways. First, if investors enjoy windfalls from industry conditions, it may be seen as fair for the CEO to gain also. This echoes widely-replicated findings from the ultimatum game (e.g., Roth et al., 1991). One player receives a windfall; if he does not give a significant share to the second player, the latter takes an action that harms both. Second, not benchmarking on the downside (see Table 10) means it may be seen as unfair to do so on the upside.

The next two highest responses from directors were "It is too difficult to define an appropriate peer group" (43%/0.20, 29%/-0.06 for investors) and "We don't have information on peer performance for some measures" (47%/0.17, 34%/-0.12). These are considerations absent from all models, which assume that a peer group exists and its performance is observable. One director explained that "for a large firm, there are few if any comparators which are similar enough." An interviewee gave the example of the mining sector, where there are only three large players (BHP, Anglo American, and

Rio Tinto) with very different portfolios. On the observability of peer performance, one director wrote that "particularly non-financial measures are hard to benchmark."

Investors responded most positively to "benchmarking all performance measures would lead to the CEO mimicking peers" (41%/0.14, versus only 27%/-0.23 for directors). The model of Zwiebel (1995) shows that benchmarking can cause the CEO to take insufficient good risk, but the free-text responses did not raise this concern. Instead, they pointed out that mimicry could lead to firms taking excessive risk (such as over-leveraging if peers are over-leveraging) or short-termist actions (cutting investment to boost margins if peers are doing so).

We also explored other theories for the lack of RPE – "Relative performance measures are less motivating for the CEO" (Dittmann, Maug, and Spalt, 2013), "In an industry upswing, not benchmarking performance keeps our pay competitive with peers" (Oyer, 2004), and "The CEO is responsible for choosing which industries our firm operates in" (Gopalan, Milbourn, and Song, 2010) – but these theories received little support.

There are more complex theories of pay-for-luck that we did not test because of the "as if" critique – they are so intricate that respondents may be unaware they are a driver. It may be that these alternative theories do explain pay-for-luck in reality. However, applying Occam's razor, a more important reason is likely to be the inability to define an appropriate peer group or observe performance, or that pay-for-luck is not a concern to begin with.

5.6 Summary

Our questions on the structure of pay yield the following conclusions:

1. Directors and investors consider intrinsic motivation and personal reputation to be the most important sources of incentives for CEOs.
2. The primary reason for variable pay is to motivate the CEO to improve long-term shareholder value, but the mechanism is not necessarily that the CEO obtains utility from consuming the

additional pay from good performance. Instead, variable pay provides ex-post recognition of performance, addressing the CEO's fairness concerns and preserving her intrinsic motivation.

3. The main determinant of pay variability is how much the CEO can affect firm performance. Firm risk and CEO risk aversion are not important. Directors feel constrained by peer firm practice and investor and proxy advisor expectations, hindering them from tailoring pay – even though investors do not consider following peer practice as important.
4. Investors believe that lengthening the horizon of CEO incentives would improve decisions, with few adverse consequences. Directors disagree. Some are concerned about the attraction/ retention effects of such a change; others believe that incentives would become less effective.
5. Most directors and in particular investors do not believe that benchmarking of CEO performance measures should be universal. One reason is that they view it as fair for CEO pay to mirror the shareholder experience. A second is that, for many companies, it is difficult to define an appropriate peer group or obtain information on peer performance.

6. Generalizability

This section discusses the generalizability of our results. Two considerations may limit their generalizability: the UK context, and the survey being conducted during the COVID-19 pandemic. We discuss these two concerns in turn.

6.1 Generalizability Beyond the UK

A natural question is whether our findings apply to other countries with, despite widespread convergence, potentially different pay practices and regulations. Since many of our most interesting results are unrelated to specific UK rules or regulations, we expect them to carry over. For example, boards feeling constrained by external forces in their ability to optimize CEO pay, boards and investors disagreeing about the consequences of reducing CEO pay, and CEOs wanting to be paid fairly are

likely to be universal. However, the specifics might differ, so repeating similar surveys in other countries would be useful.

As discussed in Section 2.3, the UK has several attractions in terms of generalizability. For example, both UK pay levels and structures lie between the US and Europe, so the UK is not an outlier; in contrast, a US study would be less likely to generalize to Europe, and vice-versa. However, for researchers interested in the US, there may be concerns that certain findings may not apply.

There are several reasons why the US is different. First, without adjusting for firm size and risk, the level of pay is significantly lower in the UK, but even after adjusting some gap remains. For example, in 2021, median "single figure" pay for FTSE 100 firms was £3.6 million (approximately $4 million), compared to $14.4 million in the S&P 500. The CEO-to-worker pay ratio, which many investors and stakeholders focus on, is 81:1 in the UK versus 193:1 in the US.[33] This suggests that downward pressure on the level of pay may be stronger in the UK. Our first finding (Table 1) was that both directors and investors believe that lowering pay is significantly less important than retaining and motivating the CEO. If anything, this result should be even stronger in the US, given that directors and investors have allowed pay to rise to higher levels.

Moreover, higher levels of pay do not mean that CEO pay is unconstrained in the US, so our results on the importance of external forces should also be relevant. For example, mean (median) pay in the S&P 500 fell by 40% (7%) between 2000 and 2014 (Edmans, Gabaix, and Jenter, 2017). In addition, prior literature has documented the influence of external parties on pay in the US (e.g., Malenko and Shen (2016) for proxy advisors). More recently, a 50% increase in say-on-pay vote defeats in the S&P 500 in 2021 was attributed to COVID-related pay actions, suggesting that alignment with the experience of employees and other stakeholders is also important in the US.[34] However, while pay is

[33] See Deloitte: "Directors' remuneration in FTSE 100 companies" for the UK and FW Cook: "CEO Pay Ratio Among S&P 500 Companies" for the US.
[34] See Mercer: "Record number of say-on-pay failures in 2021".

constrained in the US, the relative importance of the various constraints may be different to what we find for the UK. Differences in pay levels also mean that our results on whether the level of CEO pay is too low, too high, or about right may not generalize, so we relegated them to Online Appendix A.

A second difference is in the structure of pay, with options being used significantly more in the US. We thus did not ask questions on the mix of stock and options, and our questions on variable pay (Tables 10 and 11) did not specify whether this variability comes from stock, options, LTIPs, or bonuses. In Table 9, we refer to incentives from "equity" rather than stock or options, and Table 12 refers to making CEO "incentives" more long-term. We also did not ask questions on features of pay that may be less prevalent in the UK, such as inside debt (defined benefit pensions and deferred compensation), or significantly lower in the UK, such as severance pay.

Since incentives are provided by options to a greater degree in the US, our finding in Table 11 that CEO risk aversion and firm risk are least important for the split between fixed and variable pay may not generalize. $1 of options imposes more risk on a CEO than $1 of stock; on the other hand, $1 of options provides greater incentives. The calibration of Dittmann and Maug (2007) finds that the former consideration outweighs the latter, so options impose more risk for a given level of incentives. Thus, risk may be a more important consideration for the split between fixed and variable pay in the US.

A third difference is that institutional ownership is higher and more concentrated in the US. Institutional investors on average held more than 80% of the equity of S&P 500 firms in 2019, compared to 62% for the FTSE 100 (which still gave the UK the second highest institutional ownership in the OECD).[35] The "big three" institutional investors in the US (Vanguard, State Street, and BlackRock) held 21% of the equity of the average S&P 500 firm as of 2017 (Bebchuk and Hirst, 2019), versus only 9% for the three largest FTSE 100 investors (BlackRock, Vanguard, and Norges Bank).[36]

[35] See Greenspoon (2019) for the US, FactSet: "Institutional Ownership in the UK" for the UK, and De La Cruz, Medina and Tang (2019) for the OECD.
[36] See FactSet: "Institutional Ownership in the UK."

This may limit the generalizability of our finding that investors feel they have too little influence on CEO pay, so we relegated it to Online Appendix A.

Our other questions asked about investors' objectives and the factors they consider, not their influence. It might be that a larger stake provides investors with greater incentives, thus inducing them to consider more firm-specific factors. However, Tables 10 and 11 shows that UK investors would prefer more tailoring, suggesting that their smaller stakes do not hinder firm-specific analysis. In addition, Edmans and Holderness (2017) show that, if investors have capacity constraints, an investor's incentive to monitor a firm depends on its stake relative to its overall portfolio, rather than to firm value. Because the "big three" own large stakes in many firms, they are spread thinly. Thus, their ability to monitor any particular firm may not be markedly different from investors in the UK.

Finally, some regulations differ between the US and the UK. Because of UK investors' binding policy vote, in Tables 3 and 4 we studied the effects of "restrictions from our existing approved pay policy" on CEO pay. This has no implications for the US since, unlike in the UK or EU, there is no binding policy vote. Table 4 also showed that only 36% of UK directors reported that restrictions from regulation or governance codes caused them to offer an inferior structure of pay. Historically, this figure would likely have been higher in the US. Differences in accounting treatment favored options over shares, and tax rules, specifically performance-based pay being excluded from the $1 million tax-deductibility limit, favored variable pay. However, options have been expensed in the US since 2006, and all pay above $1 million has been non-deductible since 2018.

6.2 Influence of the Pandemic

Another potential concern is that the survey was launched during COVID-19. Section 2.3 described advantages of this timing, but a disadvantage is that the responses may be influenced by the pandemic. Even though we asked about the objectives, constraints, and determinants of pay in general, the

pandemic may have made certain factors more salient. For example, respondents may have felt that they are constrained in setting pay even though, in normal times, such constraints are less binding.

However, external pressures on executive pay have been common in the UK and many other countries, not just during the pandemic. Already in 1995, the influential Greenbury Report, commissioned by the Confederation of British Industry, called for linking pay to firm performance, independent remuneration committees, and better disclosure. In 1998, most of its recommendations were incorporated into the UK's Corporate Governance Code. In 2002, the UK government made these rules statutory, further enhancing reporting requirements and introducing say-on-pay. The financial crisis of 2008 caused direct regulation of bankers' pay and public pressure to reduce pay in a recession. In 2010, the UK's new Stewardship Code for asset managers obligated its signatories to monitor actively, and since 2012 it lists remuneration as one of the areas of engagement.

In the "Shareholder Spring" of 2012, there were protest votes by institutional investors against executive pay at several large UK companies, and in 2013, the government again enhanced pay disclosure and introduced a binding second shareholder vote, citing "unsustainable ratcheting-up of executive pay." In 2015, outrage over WPP CEO Martin Sorrell's £70 million pay package led to the media and policymakers scrutinizing CEO pay across all companies and putting pressure on directors and investors, and in 2018, the Investment Association coordinated a successful campaign to reduce CEO pensions (see Section 2.3). Since 2019, listed UK companies are required to disclose the median CEO-to-worker pay ratio, and every year the High Pay Centre, a think tank, releases a widely publicized report protesting high CEO pay. Thus, while the pandemic may have reinforced external constraints, it is not clear its effect was different from other economic downturns. However, just like the generalizability to other countries, we cannot formally show this. For future research, it would be fruitful to conduct similar surveys in other countries and different economic conditions.

7. Conclusion

This paper surveyed directors and investors on the objectives, constraints, and determinants of CEO pay. Our results show that many standard assumptions of executive pay models do not describe how pay is actually set, and they suggest alternatives that bring the models closer to reality.

Boards face a much larger set of constraints than participation and incentives, frequently causing them to offer lower pay and more one-size-fits-all structures. The strongest constraint is the need to obtain shareholder approval, suggesting that directors and investors disagree on how to maximize shareholder value. Investors perceive the need to avoid controversy with employees, customers, and policymakers as important additional constraints. Even for the standard participation and incentive constraints, investors and directors disagree on their importance. Investors want boards to lower the level of pay and align incentives more to long-term shareholder value. In contrast, directors believe that investors underestimate the difficulties of attracting and retaining CEOs, and that implementing investors' wishes would demotivate the CEO or precipitate her departure.

Turning to the determinants of pay, we find that fairness concerns play an important role in both the level and structure of CEO pay. Starting with the level of pay, investors and especially directors believe that the CEO needs to be paid at competitive levels, even absent any recruitment or retention concerns, because the failure to do so would be viewed as unfair and undermine the CEO's intrinsic motivation. CEOs are believed to assess their pay against their expectation of a fair reward, rather than based only on the consumption utility it provides.

Moving to the structure of pay, both directors and investors believe that pay should be linked to performance, even though they view financial incentives as less important motivators than intrinsic motivation and the CEO's personal reputation. Financial incentives are believed to interact with these other drivers – not rewarding the CEO for good performance would be seen as unfair and undermine her motivation, but visibly doing so reinforces it. Thus, incentive pay provides ex-post recognition of

performance, not just consumption incentives. Pay incentives, by delivering greater recognition, play a special role over and above portfolio incentives, whereas standard models view them as fungible.

The survey responses and interviews identified two other fairness considerations that explain the link between pay and performance. One is that CEOs are expected to share external shocks with investors and stakeholders, in contrast to optimal risk-sharing. A second is that, if employees' pay is linked to their performance, it is fair for the CEO's pay to be similarly sensitive.

Our results point towards a more complex but also more interesting model of CEO pay than currently used in the academic literature. Investors and especially directors believe that CEOs evaluate their compensation relative to a set of reference points, such as the pay of other CEOs, their past pay, and their perceived contribution to the firm. In turn, directors and investors evaluate CEO pay relative to a set of potentially different reference points, such as the pay of other CEOs, past CEO pay, the pay of employees and other top executives, and shareholder returns.

Our findings suggest a number of potential directions for future research. Starting with theory, the standard assumption of a single principal – a shareholder-aligned board – does not capture the complexity of the pay-setting process. The opposite assumption of the board maximizing pay, implicit in the "rent-extraction" view, is also unrealistic. Instead, pay is set by a board that seeks to maximize shareholder value, but also must obtain the approval of shareholders who have different information, beliefs, or objectives. Our results also call for models where pay is influenced by fairness concerns, felt by investors, directors, and CEOs, with a multitude of potential reference points.

Theorists may consider some of the practices we document here – such as following peer practice rather than designing contracts from first principles – as suboptimal and prefer to study how pay "should" be set. If so, they should acknowledge that their models are normative rather than positive. As a result, it may not be appropriate to evaluate them according to their empirical fit but instead the realism of their assumptions, which our survey may help guide.

The survey results also suggest that certain inefficient features of observed contracts may not be as puzzling as previously believed, so they may not need to be "explained" by future models. For example, if pay-for-luck is caused by fairness considerations and the difficulty of defining a peer group or observing its performance, then there is less need for models justifying pay-for-luck. Similarly, if variable pay is driven by the need to provide recognition rather than consumption incentives, the mixed evidence on the link between incentives and risk is less puzzling.

Future empirical analyses might further distinguish between the "weak/uninformed boards" and "uninformed investors" explanations for the disagreements between directors and investors. For example, researchers could study how deep the labor market for CEOs actually is, and what are the consequences (for CEO retention or performance) of changes to the level or structure of pay that make the contract less attractive. These consequences might differ according to whether these changes are made in one firm in isolation, or across the board. Another implication is that pay incentives and portfolio incentives may not be fungible and thus should be separated out in empirical analyses. Finally, it would be fruitful to study the importance of fairness in executive pay and how it is defined – i.e., what reference points CEOs, directors, and investors use to assess it.

References

Acharya, Viral V. and Paolo F. Volpin. 2010. Corporate Governance Externalities. *Review of Finance* 14, 1–33.

Akerlof, George A. 1982. Labor Contracts as Partial Gift Exchange. *Quarterly Journal of Economics* 97, 543–569.

Akerlof, George A. and Janet Yellen. 1990. The Fair Wage-Effort Hypothesis and Unemployment. *Quarterly Journal of Economics* 105, 255–283.

Albuquerque, Ana M., Rui Albuquerque, Mary Ellen Carter, and Qi (Flora) Dong. 2022. Are CEOs Paid Extra for Riskier Pay Packages? Working Paper, Boston University.

Bebchuk, Lucian A. and Jesse M. Fried. 2004. *Pay Without Performance: The Unfulfilled Promise of Executive Compensation*. Cambridge: Harvard University Press.

Bebchuk, Lucian and Yaniv Grinstein. 2005. The Growth of Executive Pay. *Oxford Review of Economic Policy* 21, 283–303.

Bebchuk, Lucian and Scott Hirst. 2019. The Specter of the Giant Three. *Boston University Law Review* 99, 721–741.

Becker, Bo, 2006. Wealth and Executive Compensation. *Journal of Finance* 61, 379–397.

Ben-David, Itzhak, John R. Graham, and Campbell R. Harvey. 2013. Managerial Miscalibration. *Quarterly Journal of Economics* 128, 1547–1584.

Bénabou, Roland and Jean Tirole. 2003. Intrinsic and Extrinsic Motivation. *Review of Economic Studies* 70, 489–520.

Bertrand, Marianne and Sendhil Mullainathan. 2001. Are CEOs Rewarded for Luck? The Ones Without Principals Are. *Quarterly Journal of Economics* 116, 901–932.

Besley, Timothy and Maitreesh Ghatak. 2005. Competition and Incentives with Motivated Agents. *American Economic Review* 95, 616–636.

Bettignies (de), Jean-Etienne and David T. Robinson. 2018. When is Social Responsibility Socially Desirable? *Journal of Labor Economics* 36, 1023–1072.

Bizjak, John M., Michael L. Lemmon, and Lalitha Naveen. 2008. Does the Use of Peer Groups Contribute to Higher Pay and Less Efficient Compensation? *Journal of Financial Economics* 90, 152–168.

Brav, Alon, John R. Graham, Campbell R. Harvey, and Roni Michaely. 2005. Payout Policy in the 21st century. *Journal of Financial Economics* 77, 483–527.

Brown, Martin, Armin Falk, and Ernst Fehr. 2004. Relational Contracts and the Nature Of Market Interactions. *Econometrica* 72, 747–780.

Brunarski, Kelly R., T. Colin Campbell, and Yvette S. Harman. 2015. Evidence on the Outcome of Say-On-Pay Votes: How Managers, Directors, and Shareholders Respond. *Journal of Corporate Finance* 30, 132–149.

Burns, Natasha, Kristina Minnick, and Laura Starks. 2023. CEO Turnover: Cross-country Effects. *Corporate Governance: An International Review*. Forthcoming.

Cabezon, Felipe 2022. Executive Compensation: The Trend Toward One Size Fits All. Working Paper, Virginia Tech.

Carlin, Bruce Ian and Simon Gervais. 2009. Work Ethic, Employment Contracts, and Firm Value. *Journal of Finance* 64, 785–821.

Coles, Jeffrey L., Naveen D. Daniel, and Lalitha Naveen. 2006. Managerial Incentives and Risk-Taking. *Journal of Financial Economics* 79, 431–468.

Conyon, Martin J., John E. Core, and Wayne R. Guay. 2011. Are U.S. CEOs Paid More Than U.K. CEOs? Inferences From Risk-Adjusted Pay. *Review of Financial Studies* 24, 402–438.

Core, John E., Wayne Guay, and David F. Larcker. 2008. The Power of the Pen and Executive Compensation. *Journal of Financial Economics* 88, 1–25.

Cremers, K.J. Martijn and Yaniv Grinstein. 2014. Does the Market for CEO Talent Explain Controversial CEO Pay Practices? *Review of Finance* 18, 921-960.

Cziraki, Peter and Dirk Jenter. 2022. The Market for CEOs. Working Paper, University of Toronto.

Dasgupta, Amil, Vyacheslav Fos, and Zacharias Sautner. 2021. Institutional Investors and Corporate Governance. *Foundations and Trends in Finance* 12, 276–394.

De La Cruz, Adriana, Alejandra Medina, and Yung Tang. 2019. Owners of the World's Listed Companies. *OECD Capital Market Series*, Paris.

Dicks, David, 2012. Executive Compensation and the Role for Corporate Governance Regulation. *Review of Financial Studies* 25, 1971–2004.

Dittmann, Ingolf and Ernst Maug. 2007. Lower Salaries and No Options? On the Optimal Structure of Executive Pay. *Journal of Finance* 62, 303–343.

Dittmann, Ingolf, Ernst Maug, and Oliver Spalt. 2013. Indexing Executive Compensation Contracts. *Review of Financial Studies* 26, 3182–3224.

Edmans, Alex, Vivian W. Fang, and Allen H. Huang. 2022. The Long-Term Consequences of Short-Term Incentives. *Journal of Accounting Research* 60, 1007–1046.

Edmans, Alex, Vivian W. Fang, and Katharina A. Lewellen. 2017. Equity Vesting and Investment. *Review of Financial Studies* 30, 2229–2271.

Edmans, Alex and Xavier Gabaix. 2016. Executive Compensation: A Modern Primer. *Journal of Economic Literature* 54, 1232–1287.

Edmans, Alex and Xavier Gabaix. 2011. Tractability in Incentive Contracting. *Review of Financial Studies* 24, 2865–2894.

Edmans, Alex, Xavier Gabaix, Tomasz Sadzik, and Yuliy Sannikov. 2012. Dynamic CEO Compensation. *Journal of Finance* 67, 1603–1647.

Edmans, Alex, Xavier Gabaix, and Dirk Jenter. 2017. Executive Compensation: A Survey of Theory and Evidence. In: Handbook of the Economics of Corporate Governance Chapter 9, 383–539.

Edmans, Alex and Clifford G. Holderness. 2017. Blockholders: A Survey of Theory and Evidence. In: Handbook of the Economics of Corporate Governance Chapter 8, 541–636.

Ertimur, Yonca, Fabrizio Ferri, and David Oesch. 2013. Shareholder Votes and Proxy Advisors: Evidence from Say on Pay. *Journal of Accounting Research* 51, 951-996.

Faleye, Olubunmi, Ebru Reis, and Anand Venkateswaran. 2013. The Determinants and Effects of CEO–Employee Pay Ratios. *Journal of Banking and Finance* 37, 3258–3272.

Fama, Eugene F. 1980. Agency Problems and the Theory of the Firm. *Journal of Political Economy* 88, 288–307.

Fehr, Ernst, Lorenz Goette, and Christian Zehnder. 2009. A Behavioral Account of the Labor Market: The Role of Fairness Concerns. *Annual Review of Economics* 1, 355–384.

Fernandes, Nuno, Miguel A. Ferreira, Pedro Matos, and Kevin J. Murphy. 2013. Are US CEOs Paid More? New International Evidence. *Review of Financial Studies* 26, 323–367.

Ferri, Fabrizio and David A. Maber. 2013. Say on Pay Votes and CEO Compensation: Evidence from the UK. *Review of Finance* 17, 527–563.

Focke, Florens, Ernst Maug, and Alexandra Niessen-Ruenzi. 2017. The Impact of Firm Prestige on Executive Compensation. *Journal of Financial Economics* 123, 313–336.

Friedman, Milton. 1953. The Methodology of Positive Economics. In: Essays in Positive Economics, edited by Milton Friedman. Chicago: University of Chicago Press.

Gabaix, Xavier, and Augustin Landier. 2008. Why Has CEO Pay Increased So Much? *Quarterly Journal of Economics* 123, 49–100.

Garvey, Gerald T. and Todd T. Milbourn. 2006. Asymmetric Benchmarking in Compensation: Executives are Rewarded for Good Luck but not Penalized for bad. *Journal of Financial Economics* 82, 197–225.

Gayle, George-Levi and Robert A. Miller. 2009. Has Moral Hazard Become a More Important Factor in Managerial Compensation? *American Economic Review* 209, 1740–1769.

Gompers, Paul, Will Gornall, Steven N. Kaplan, and Ilya A. Strebulaev. 2020. How Do Venture Capitalists Make Decisions? *Journal of Financial Economics* 135, 169–190.

Gopalan, Radhakrishnan, Todd Milbourn, and Fenghua Song. 2010. Strategic Flexibility and the Optimality of Pay for Sector Performance. *Review of Financial Studies* 23, 2060–2098.

Gopalan, Radhakrishnan, Todd Milbourn, Fenghua Song, and Anjan V. Thakor. 2014. Duration of Executive Compensation. *Journal of Finance* 69, 2777–2817.

Graham, John R. and Campbell R. Harvey. 2001. The Theory and Practice of Corporate Finance: Evidence from the Field. *Journal of Financial Economics* 60, 187–243.

Graham, John R., Campbell R. Harvey, and Manju Puri. 2013. Managerial Attitudes and Corporate Actions. *Journal of Financial Economics* 109, 103–121.

Graham, John R., Campbell R. Harvey, and Shiva Rajgopal. 2005. The Economic Implications of Corporate Financial Reporting. *Journal of Accounting and Economics* 40, 3–73.

Greenspoon, Jacob. 2019. How Big a Problem Is It That a Few Shareholders Own Stock in So Many Competing Companies? *Harvard Business Review,* February 19, 2019.

Hall, Brian J. and Jeffrey B. Liebman. 1998. Are CEOs Really Paid Like Bureaucrats? *Quarterly Journal of Economics* 112, 653–691.

Hartzell, Jay C., Christopher A. Parsons and David L. Yermack. 2010. Is a Higher Calling Enough? Incentive Compensation in the Church. *Journal of Labor Economics* 28, 509–540.

Herzberg, Frederick. 1959. *The Motivation to Work*. New York: Wiley.

Holmstrom, Bengt. 1982. Moral Hazard in Teams. *Bell Journal of Economics* 13, 324–340.

Holmstrom, Bengt, and Paul Milgrom. 1987. Aggregation and Linearity in the Provision of Intertemporal Incentives. *Econometrica* 55, 308–328.

Iliev, Peter and Michelle Lowry. 2015. Are Mutual Funds Active Voters? *Review of Financial Studies* 28, 446–485.

Jensen, Michael C. and Kevin J. Murphy. 1990. Performance Pay and Top-Management Incentives. *Journal of Political Economy* 98, 225–264.

Jenter, Dirk, Egor Matveyev, and Lukas Roth. 2022. Good and Bad CEOs. Working Paper, London School of Economics.

Jochem, Torsten, Tomislav Ladika, and Zacharias Sautner. 2018. The Retention Effects of Unvested Equity: Evidence from Accelerated Option Vesting. *Review of Financial Studies* 31, 4142–4186.

Jochem, Torsten, Gaizka Ormazabal, and Anjana Rajamani. 2021. Why Have CEO Pay Levels Become Less Diverse? Working Paper, University of Amsterdam.

Kahneman, Daniel, Jack L. Knetsch and Richard Thaler. 1986. Fairness as a Constraint on Profit Seeking: Entitlements in the Market. *American Economic Review* 76, 728–741.

Kale, Jayant R., Ebru Reis, and Anand Venkateswaran. 2009. Rank-Order Tournaments and Incentive Alignment: The Effect on Firm Performance. *Journal of Finance* 64, 1479–1512.

Krueger, Philipp, Zacharias Sautner, and Laura T. Starks. 2020. The Importance of Climate Risks for Institutional Investors. *Review of Financial Studies* 33, 1067–1111.

Kuhnen, Camelia M. and Alexandra Niessen. 2012. Public Opinion and Executive Compensation. *Management Science* 58, 1249–1272.

Ladika, Tomislav and Zacharias Sautner. 2020. Managerial Short-Termism and Investment: Evidence from Accelerated Option Vesting. *Review of Finance* 24, 305–344.

Lazear, Edward P. 2005. Output-Based Pay: Incentives, Retention, or Sorting? *Research in Labor Economics* 23, 1–25.

Lazear, Edward P. and Sherwin Rosen. 1981. Rank-order Tournaments as Optimum Labor Contracts. *Journal of Political Economy* 89, 841–864.

Lintner, John. 1956. Distribution of Incomes of Corporations Among Dividends, Retained Earnings, and Taxes. *American Economic Review* 46, 97–113.

McCahery, Joseph A., Zacharias Sautner, and Laura T. Starks. 2016. Behind the Scenes: The Corporate Governance Preferences of Institutional Investors. *Journal of Finance* 71, 2905–2932.

Malenko, Nadya and Yao Shen. 2016. The Role of Proxy Advisory Firms: Evidence from a Regression-Discontinuity Design. *Review of Financial Studies* 29, 3394–3427.

Maslow, Abraham H. 1943. A Theory of Human Motivation. *Psychological Review* 50, 370–396.

Mueller, Holger M., Paige P. Ouimet, and Elena Simintzi. 2017. Within-Firm Pay Inequality. *Review of Financial Studies* 30, 3605–3635.

Murdock, Kevin. 2002. Intrinsic Motivation and Optimal Incentive Contracts. *RAND Journal of Economics* 33, 650–671.

Murphy, Kevin J. 2013. Executive Compensation: Where We Are, and How We Got There. In Handbook of the Economics of Finance, Volume 2, edited by George M. Constantinides, Milton Harris, and René M. Stulz, 211–356. New York and Oxford: Elsevier/North-Holland.

Oyer, Paul. 2004. Why Do Firms Use Incentives That Have No Incentive Effects? *Journal of Finance* 59, 1619–1650.

Prendergast, Canice. 2002. The Tenuous Trade-off between Risk and Incentives. *Journal of Political Economy* 110, 1071–1102.

Roth, Alvin E., Vesna Prasnikar, Masahiro Okuno-Fujiwara, and Shmuel Zamir. 1991. Bargaining and Market Behavior in Jerusalem, Ljubljana, Pittsburgh, and Tokyo: An Experimental Study. *American Economic Review* 81, 1068-1095.

Stein, Jeremy C. 1988. Takeover Threats and Managerial Myopia. *Journal of Political Economy* 46, 61–80.

Terviö, Marko. 2008. The Difference that CEOs Make: An Assignment Model Approach. *American Economic Review* 98, 642–668.

Zwiebel, Jeffrey. 1995. Corporate Conservatism and Relative Compensation. *Journal of Political Economy* 103, 1–25.

Table 1

Q1: Rank the importance of the following goals when setting CEO pay, by dragging the options below (1=most important, 3=least important)

The first row of responses for each option (not italicized) is from directors, the second row (italicized) is from investors.

	Mean	1	2	3	N
Attract/retain the right CEO	1.39 [a,a]	65%	32%	4%	203
	1.64 [a,a]	*44%*	*48%*	*8%*	*159*
Design a structure that motivates the CEO	1.70 [a,b]	34%	61%	5%	203
	1.56 [a,b]	*51%*	*42%*	*7%*	*159*
Keep the quantum of pay down	2.90 [a,b]	1%	8%	91%	203
	2.80 [a,b]	*5 %*	*10%*	*85%*	*159*

The first superscript reports whether the mean is significantly different from two (the middle ranking), the second whether the means are significantly different for directors and investors. a, b, and c represent statistical significance at the 1%, 5%, and 10% level, respectively.

Table 2

Q2a: How large a sacrifice in shareholder value would you make to avoid controversy on CEO pay? (1=none, 2=small sacrifice, 3=moderate sacrifice, 4=large sacrifice)
Investors: How large a sacrifice in shareholder value would you tolerate firms making to avoid controversy on CEO pay?

Q2b: How important is it to avoid controversy with the following parties? (-2=not at all important, 2=very important)

The first row of responses for each option (not italicized) is from directors, the second row (italicized) is from investors.

Panel A

	Mean	1	2	3	4	N
How large a sacrifice in shareholder value would you make to avoid controversy on CEO pay?	1.92	33%	44%	20%	3%	197
How large a sacrifice in shareholder value would you tolerate firms making to avoid controversy on CEO pay?	*1.74*	*44%*	*40%*	*13%*	*3%*	*153*

Panel B

	Mean	-2	-1	0	1	2	N
Investors	1.24 [a,a]	0%	2%	9%	50%	38%	128
Other investors	*0.24* [c,a]	*6%*	*23%*	*27%*	*30%*	*14%*	*84*
Employees	0.69 [a,a]	4%	7%	27%	41%	21%	128
	1.26 [a,a]	*0%*	*6%*	*12%*	*32%*	*50%*	*84*
Proxy advisors	0.45 [a,a]	2%	12%	38%	34%	13%	128
	-0.12 [-,a]	*10%*	*32%*	*29%*	*20%*	*10%*	*84*
Customers	0.20 [c,a]	9%	25%	22%	24%	20%	128
	1.14 [a,a]	*1%*	*7%*	*17%*	*26%*	*49%*	*84*
Policymakers	0.00 [-,a]	5%	30%	32%	23%	9%	128
	0.92 [a,a]	*2%*	*5%*	*27%*	*30%*	*36%*	*84*
Media	-0.05 [-,-]	6%	27%	37%	23%	5%	128
	0.17 [-,-]	*8%*	*21%*	*27%*	*31%*	*12%*	*84*

The first superscript reports whether the mean is significantly different from zero, the second whether the means are significantly different for directors and investors. a, b, and c represent statistical significance at the 1%, 5%, and 10% level, respectively.

Table 3

Q12a: Have any of the following ever caused you to offer a lower quantum of CEO pay than you would like? (Y/N)

Q12b: Did this lower quantum ever lead to the following consequences?

Panel A			
	Yes	No	N
Risk of investor opposition	60%	40%	172
Risk of "vote against" recommendation from a proxy advisor	53%	47%	172
Restrictions from our existing approved pay policy	44%	56%	172
Risk of controversy with employees, the media, customers, or policymakers	37%	63%	172
Unwillingness to deviate substantially from how we have paid in the past	28%	72%	172
Panel B			
	Yes	No	N
The CEO was less motivated	42%	58%	132
There were no adverse consequences	41%	59%	132
We hire a less expensive CEO	13%	87%	132
The CEO left	7%	93%	132

Table 4

Q13a: Have any of the following ever caused you to offer an inferior structure of CEO pay to what you would like? (Y/N)

Q13b: Was the structure inferior in the following ways?

Panel A			
	Yes	No	N
Risk of "vote against" recommendation from a proxy advisor	54%	46%	170
Risk of investor opposition	54%	46%	170
Restrictions from our approved pay policy	40%	60%	170
Restrictions from regulation or governance codes	36%	64%	170
Risk of controversy with employees, the media, customers, or policymakers	29%	71%	170
Unwillingness to deviate substantially from how we have paid in the past	16%	84%	170
Adverse tax, accounting, or disclosure implications	10%	90%	170
Panel B			
	Yes	No	N
We followed market practice more	69%	31%	123
We offered less upside for good performance	65%	35%	123
We used (more) performance conditions	57%	43%	123
We made incentives more long-term	40%	60%	123
We made incentives more short-term	13%	87%	123

Table 5

Q3: How important are the following factors in determining the target quantum of pay for a new CEO? (-2=not at all important, 2=very important)

The first row of responses for each option (not italicized) is from directors, the second row (italicized) is from investors.

	Mean	-2	-1	0	1	2	N
The new CEO's ability	1.29 [a,b]	4%	2%	9%	31%	54%	188
	1.49 [a,b]	*0%*	*3%*	*7%*	*27%*	*63%*	*145*
CEO pay at peer firms	0.82 [a,a]	1%	8%	24%	41%	26%	188
	0.46 [a,a]	*5%*	*9%*	*37%*	*33%*	*16%*	*145*
How attractive our firm is to run (e.g. prestige, risk, complexity)	0.76 [a,–]	4%	7%	22%	45%	22%	188
*How attractive the firm is to run (*e.g. *prestige, risk, complexity)*	*0.61 [a,–]*	*3%*	*10%*	*26%*	*43%*	*17%*	*145*
The new CEO's other employment options	0.55 [a,b]	6%	11%	26%	38%	20%	188
	0.26 [a,b]	*6%*	*16%*	*34%*	*32%*	*11%*	*145*
The new CEO's pay in their previous position	0.26 [a,a]	5%	15%	38%	32%	9%	188
	-0.21 [a,a]	*10%*	*26%*	*41%*	*20%*	*3%*	*145*
How financially motivated the new CEO is	0.07 [–,b]	9%	20%	35%	30%	7%	188
	-0.23 [b,b]	*14%*	*23%*	*39%*	*19%*	*5%*	*145*
The outgoing CEO's pay	-0.02 [–,a]	7%	26%	35%	28%	5%	188
	-0.55 [a,a]	*18%*	*37%*	*30%*	*11%*	*4%*	*145*

The first superscript reports whether the mean is significantly different from zero, the second whether they are significantly different for directors and investors. a, b, and c represent statistical significance at the 1%, 5%, and 10% level, respectively.

Table 6

Q4: What causes you to increase the target quantum of pay for an incumbent CEO? (-2=strongly disagree, 2=strongly agree)

What causes you to support increases to the target quantum of pay for an incumbent CEO?

The first row of responses for each option (not italicized) is from directors, the second row (italicized) is from investors.

	Mean	-2	-1	0	1	2	N
Good recent CEO performance	0.98 [a,–]	3%	7%	15%	41%	34%	186
	1.05 [a,–]	*0%*	*5%*	*20%*	*41%*	*35%*	*142*
Increase in firm size	0.37 [a,c]	4%	15%	35%	33%	13%	186
	0.17 [c,c]	*9%*	*15%*	*30%*	*39%*	*6%*	*142*
Increase in pay at peer firms	0.26 [a,a]	3%	16%	37%	38%	5%	186
	-0.17 [b,a]	*13%*	*20%*	*40%*	*25%*	*2%*	*142*
Increased threat of CEO leaving	0.25 [a,a]	5%	17%	35%	35%	8%	186
	-0.06 [–,a]	*8%*	*24%*	*38%*	*27%*	*3%*	*142*
Changes in attractiveness (e.g. prestige, risk, complexity) of CEO job at your firm	0.23 [a,–]	6%	17%	33%	34%	9%	186
*Changes in attractiveness (*e.g. *prestige, risk, complexity) of CEO job at their firm*	*0.25 [a,–]*	*8%*	*13%*	*34%*	*36%*	*9%*	*142*
Other changes that reduce the attractiveness of the pay package (e.g. adding holding periods)	-0.11 [–,–]	8%	26%	38%	25%	3%	186
	0.01 [–,–]	*7%*	*23%*	*40%*	*21%*	*8%*	*142*
Changes in attractiveness (e.g. prestige, risk, complexity) of CEO jobs at other firms	-0.28 [a,–]	10%	30%	41%	16%	3%	186
	-0.37 [a,–]	*10%*	*34%*	*40%*	*15%*	*1%*	*142*

The first superscript reports whether the mean is significantly different from zero, the second whether they are significantly different for directors and investors. a, b, and c represent statistical significance at the 1%, 5%, and 10% level, respectively.

Table 7

Q5a: Have you ever significantly decreased the target quantum of pay for an incumbent CEO?
Investors: Have you ever requested significant decreases to the target quantum of pay for an incumbent CEO?

Q5b: What caused you to decrease the target quantum of pay for an incumbent CEO? (-2=strongly disagree, 2=strongly agree)
Investors: What caused you to request decreases to the target quantum of pay for an incumbent CEO?

The first row of responses for each option (not italicized) is from directors, the second row (italicized) is from investors.

Panel A

	Yes	No	N
Have you ever significantly decreased the target quantum of pay for an incumbent CEO?	23%	77%	186
Have you ever requested significant decreases to the target quantum of pay for an incumbent CEO?	*65%*	*35%*	*142*

Panel B

	Mean	-2	-1	0	1	2	N
External pressure to reduce pay (e.g. from investors, the media, policymakers)	0.15 –,c	20%	10%	24%	29%	17%	41
	-0.28 b,c	*19%*	*20%*	*33%*	*23%*	*4%*	*93*
Your firm encountering financial constraints	0.07 –,–	32%	12%	5%	20%	32%	41
The firm encountering financial constraints	*0.53 a,–*	*13%*	*9%*	*20%*	*29%*	*29%*	*93*
The CEO requesting it*	-0.37	49%	0%	10%	22%	20%	41
Poor recent CEO performance	-0.41 –,a	41%	10%	15%	17%	17%	41
	0.96 a,a	*6%*	*6%*	*17%*	*25%*	*45%*	*93*
Decrease in firm size	-0.90 a,b	46%	20%	17%	12%	5%	41
	-0.31 b,b	*23%*	*18%*	*35%*	*15%*	*9%*	*93*
Decrease in pay at peer firms	-1.15 a,c	56%	17%	15%	10%	2%	41
	-0.74 a,c	*29%*	*28%*	*32%*	*10%*	*1%*	*93*
Change in attractiveness (e.g. prestige, risk, complexity) of CEO job at your firm	-1.20 a,a	56%	17%	17%	10%	0%	41
*Change in attractiveness (*e.g. *prestige, risk, complexity) of CEO job at their firm*	*-0.51 a,a*	*22%*	*28%*	*34%*	*12%*	*4%*	*93*
Change in attractiveness (e.g. prestige, risk, complexity) of CEO jobs at other firms	-1.41 a,a	63%	20%	12%	5%	0%	41
	-0.80 a,a	*28%*	*35%*	*28%*	*5%*	*3%*	*93*

The first superscript reports whether the mean is significantly different from zero, the second whether they are significantly different for directors and investors. a, b, and c represent statistical significance at the 1%, 5%, and 10% level, respectively.
*Only directors were asked this question.

Table 8

Q6: If your firm reduced the target quantum pay of its next CEO by 1/3 compared to its current CEO, what might happen? (-2=very unlikely outcome, 2=very likely outcome)
Investors: If a firm reduced the target quantum pay of its next CEO by 1/3 compared to its current CEO, what might happen?

The first row of responses for each option (not italicized) is from directors, the second row (italicized) is from investors.

	Mean	-2	-1	0	1	2	N
We would recruit a lower quality CEO	0.66 [a,a]	7%	9%	25%	30%	29%	182
The firm would recruit a lower quality CEO	*-0.32 [a,a]*	*11%*	*30%*	*41%*	*15%*	*3%*	*140*
The CEO would be less motivated	0.38 [a,a]	4%	19%	31%	26%	20%	182
	-0.31 [a,a]	*15%*	*27%*	*34%*	*21%*	*2%*	*140*
It would create undesirable pay compression between the CEO and other executives	0.36 [a,a]	7%	16%	26%	37%	14%	182
	-0.50 [a,a]	*16%*	*36%*	*31%*	*14%*	*2%*	*140*
We would have a strained relationship with the CEO	0.32 [a,a]	7%	19%	29%	26%	19%	182
The board would have a strained relationship with the CEO	*-0.48 [a,a]*	*14%*	*34%*	*39%*	*9%*	*3%*	*140*
It would send a negative signal about CEO quality to the market	0.29 [a,a]	8%	19%	24%	36%	14%	182
	-0.36 [a,a]	*14%*	*33%*	*32%*	*16%*	*5%*	*140*
There would be no adverse consequences	-0.96 [a,a]	41%	26%	23%	7%	3%	182
	-0.02 [–,a]	*9%*	*23%*	*35%*	*26%*	*6%*	*140*

The first superscript reports whether the mean is significantly different from zero, the second whether they are significantly different for directors and investors. a, b, and c represent statistical significance at the 1%, 5%, and 10% level, respectively.

Table 9

Q7: What motivates your CEO to perform strongly? (-2=not at all important, 2=very important)
Investors: What motivates CEOs to perform strongly?

The first row of responses for each option (not italicized) is from directors, the second row (italicized) is from investors.

	Mean	-2	-1	0	1	2	N
Intrinsic motivation	1.55 [a,–]	2%	1%	4%	24%	68%	181
	1.50 [a,–]	*0%*	*1%*	*9%*	*31%*	*60%*	*139*
Personal reputation	1.40 [a,b]	3%	1%	6%	36%	55%	181
	1.60 [a,b]	*0%*	*0%*	*4%*	*33%*	*63%*	*139*
Incentives from bonuses, LTIPs, equity, or future pay increases	0.98 [a,–]	2%	6%	17%	46%	30%	181
	0.83 [a,–]	*1%*	*8%*	*24%*	*42%*	*25%*	*139*
Industry competition	0.62 [a,c]	2%	13%	24%	44%	18%	181
	0.82 [a,c]	*1%*	*6%*	*26%*	*44%*	*23%*	*139*
The quantum of pay	0.55 [a,a]	2%	12%	31%	40%	15%	181
	0.21 [a,a]	*3%*	*17%*	*42%*	*31%*	*6%*	*139*
The potential to move to a bigger firm	-0.53 [a,a]	19%	35%	29%	16%	2%	181
	0.37 [a,a]	*4%*	*13%*	*37%*	*35%*	*12%*	*139*
Risk of being fired	-0.88 [a,a]	30%	41%	18%	9%	2%	181
	-0.20 [b,a]	*11%*	*27%*	*37%*	*22%*	*3%*	*139*

The first superscript reports whether the mean is significantly different from zero, the second whether they are significantly different for directors and investors. a, b, and c represent statistical significance at the 1%, 5%, and 10% level, respectively.

Table 10

Q8: Why do you offer the CEO variable pay? (-2=strongly disagree, 2=strongly agree)
Investors: Why should CEOs be offered variable pay?

The first row of responses for each option (not italicized) is from directors, the second row (italicized) is from investors.

	Mean	-2	-1	0	1	2	N
To motivate the CEO to improve long-term shareholder value	1.46 [a,–]	2%	2%	7%	26%	63%	179
	1.36 [a,–]	*1%*	*4%*	*8%*	*31%*	*55%*	*137*
To attract/retain a high-ability or hard-working CEO	1.19 [a,a]	2%	2%	8%	49%	39%	179
	0.85 [a,a]	*4%*	*7%*	*19%*	*37%*	*32%*	*137*
So that the CEO shares risks with investors and stakeholders, even if out of the CEO's control	1.16 [a,–]	3%	2%	10%	44%	41%	179
	1.14 [a,–]	*4%*	*4%*	*14%*	*33%*	*46%*	*137*
To motivate the CEO to improve outcomes other than long-term shareholder value	0.46 [a,–]	9%	13%	26%	27%	25%	179
	0.47 [a,–]	*10%*	*13%*	*23%*	*26%*	*27%*	*137*
To match peer firm practice	0.37 [a,a]	5%	14%	32%	36%	12%	179
	-0.45 [a,a]	*15%*	*31%*	*39%*	*12%*	*3%*	*137*
Because investors or proxy advisors require it*	-0.17 [c]	18%	20%	31%	23%	8%	179
So that the quantum of pay can be justified	-0.42 [a,–]	22%	30%	21%	21%	6%	179
	-0.34 [a,–]	*23%*	*26%*	*26%*	*11%*	*14%*	*137*

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*Only directors were asked this question.

Table 11

Q9: What determines the split between fixed and variable pay? (-2=not at all important, 2=very important)
Investors: What should determine the split between fixed and variable pay?

The first row of responses for each option (not italicized) is from directors, the second row (italicized) is from investors.

	Mean	-2	-1	0	1	2	N
How much the CEO can affect firm performance	0.66 [a,a]	7%	9%	21%	35%	27%	178
	0.98 [*a,a*]	*1%*	*5%*	*19%*	*44%*	*31%*	*135*
Investor or proxy advisor expectations*	0.55 [a]	7%	7%	26%	43%	17%	178
The split between fixed and variable pay in peer firms	0.37 [a,a]	6%	10%	35%	38%	11%	178
	-0.49 [*a,a*]	*16%*	*28%*	*45%*	*9%*	*1%*	*135*
CEO intrinsic motivation	0.30 [a,–]	8%	13%	29%	37%	12%	178
	0.12 [*–,–*]	*13%*	*16%*	*32%*	*25%*	*14%*	*135*
The desire to avoid excessive pay outcomes	0.24 [a,–]	10%	19%	21%	38%	12%	178
	0.30 [*a,–*]	*7%*	*21%*	*24%*	*30%*	*18%*	*135*
How risky our firm is	-0.44 [a,a]	17%	29%	38%	12%	3%	178
	0.29 [*a,a*]	*7%*	*13%*	*32%*	*38%*	*10%*	*135*
CEO personal risk appetite	-0.46 [a,–]	20%	31%	27%	19%	3%	178
	-0.45 [*a,–*]	*19%*	*30%*	*32%*	*19%*	*1%*	*135*

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*Only directors were asked this question.

Table 12

Q10: What would happen if you made the CEO's incentives more long-term? (-2=very unlikely outcome, 2=very likely outcome)
Investors: What would happen if companies made CEO incentives more long-term?

The first row of responses for each option (not italicized) is from directors, the second row (italicized) is from investors.

	Mean	-2	-1	0	1	2	N
The incentives would lose their effectiveness	0.20 [b,a]	6%	25%	25%	31%	13%	177
	-0.98 [*a,a*]	*30%*	*44%*	*21%*	*4%*	*1%*	*135*
We would have to pay the CEO more, which would outweigh any benefits	0.14 [c,a]	7%	18%	37%	29%	9%	177
The CEO would need to be paid more, which would outweigh any benefits	*-0.81* [*a,a*]	*19%*	*51%*	*24%*	*4%*	*2%*	*135*
We would be unable to attract/retain the CEO we want	0.13 [–,a]	7%	19%	34%	31%	8%	177
The board would be unable to attract/retain the CEO it wants	*-0.95* [*a,a*]	*28%*	*45%*	*21%*	*4%*	*1%*	*135*
The CEO would make better decisions	-0.40 [a,a]	21%	25%	32%	15%	7%	177
	1.14 [*a,a*]	*1%*	*4%*	*16%*	*34%*	*44%*	*135*

The first superscript reports whether the mean is significantly different from zero, the second whether they are significantly different for directors and investors. a, b, and c represent statistical significance at the 1%, 5%, and 10% level, respectively.

Table 13

Q11a: Do you filter out industry conditions from all performance measures (e.g. by benchmarking against peers)?
Investors: Do you believe that industry conditions should be filtered out from all performance measures (e.g. by benchmarking against peers)?

Q11b: Why don't you filter out industry conditions from all performance measures? (-2=strongly disagree, 2=strongly agree)
Investors: Why don't you believe that industry conditions should be filtered out from all performance measures?

The first row of responses for each option (not italicized) is from directors, the second row (italicized) is from investors.

Panel A

	Yes	No	N
Do you filter out industry conditions from all performance measures	37%	63%	175
Do you believe that industry conditions should be filtered out from all performance measures?	*25%*	*75%*	*135*

Panel B

	Mean	-2	-1	0	1	2	N
The CEO should benefit from an industry upswing, since investors and stakeholders do	0.44 a,a	2%	9%	46%	29%	14%	107
CEOs should benefit from an industry upswing, since investors and stakeholders do	*0.05 –,a*	*8%*	*19%*	*40%*	*24%*	*8%*	*98*
It is too difficult to define an appropriate peer group	0.20 –,–	12%	21%	23%	21%	22%	107
	-0.06 –,–	*9%*	*26%*	*37%*	*19%*	*9%*	*98*
We don't have information on peer performance for some measures	0.17 –,–	18%	14%	21%	27%	20%	107
The board doesn't have information on peer performance for some measures	*-0.12 –,–*	*14%*	*26%*	*27%*	*26%*	*8%*	*98*
Investors don't want us to filter out industry conditions*	0.11	8%	14%	46%	21%	10%	107
Benchmarking all performance measures would lead to the CEO mimicking peers	-0.23 b,b	12%	29%	32%	24%	3%	107
	0.14 –,b	*10%*	*19%*	*30%*	*28%*	*13%*	*98*
Relative performance measures are less motivating for the CEO	-0.26 a,–	11%	32%	33%	21%	4%	107
Relative performance measures are less motivating for CEOs	*-0.46 a,–*	*18%*	*36%*	*24%*	*16%*	*5%*	*98*
In an industry upswing, not benchmarking performance keeps our pay competitive with peers	-0.32 a,–	18%	22%	36%	22%	2%	107
In an industry upswing, not benchmarking performance keeps the pay competitive with peers	*-0.17 c,–*	*10%*	*21%*	*47%*	*18%*	*3%*	*98*
The CEO is responsible for choosing what industries our firm operates in	-1.07 a,a	53%	21%	10%	8%	7%	107
	-0.42 a,a	*18%*	*33%*	*29%*	*13%*	*7%*	*98*

The first superscript reports whether the mean is significantly different from zero, the second whether they are significantly different for directors and investors. a, b, and c represent statistical significance at the 1%, 5%, and 10% level, respectively.
*Only directors were asked this question.

Online Appendix: Not For Publication

Appendix A: Who Sets CEO Pay?

The survey also included two questions on the influence of different parties in the pay setting process that were not discussed in detail in the main text. Table OA5 asked investors: "How much influence do you believe investors have on CEO pay?", with -2 (2) representing no (high) influence. Fewer than 5% of investors view themselves as having high influence, despite having a legally binding vote on policy, with 35% selecting 1 and 40% choosing 0. An investor argued that the board often views itself as an agent of regulators concerned with fulfilling its legal requirements, rather than as an agent of shareholders.

Table OA6 broadened the question to other parties by asking both investors and directors "How much do the following influence CEO pay compared to the optimal level?", where -2 represents "much less than they should", 0 "about right", and 2 "much more than they should." Interestingly, even though Table 2 showed that directors view investors as the most severe source of constraints, only 37% of directors see investors' influence as excessive, with 57% rating it as "about right." Directors may view investors' influence as legitimate because they own shares in the company. In contrast, 72% of directors believe proxy advisors' influence to be excessive (average score of 1.00).

Just as directors view investors' advisors (proxy agencies) as having the most excessive influence, investors think the same about directors' advisors (compensation consultants), with a score of 70%/0.97. The free text fields showed that each blames the other's advisors for similar behavior – excessive benchmarking to peers and insufficient tailoring to a particular situation. Shareholders also view CEOs (64%/0.80) as having too much influence on CEO pay, echoing other responses suggesting they view boards as weak.

Unsurprisingly, investors think that they have too little influence – 62% report that their influence is "less" or "much less" than it should be. This is, in part, because shareholders view other shareholders as not influencing pay in the way they should. One argued that "investors have surprisingly little influence over CEO pay. The biggest ones – the index investors – are even worse as they try and force a one size fits all approach to all companies." This echoes the responses in Table 2, where 44% of investors believe that other investors cause firms to offer contracts that sacrifice shareholder value.

Investors' dissatisfaction with CEO pay may be surprising since average say-on-pay support consistently exceeds 90% in the UK.[37] We explored this incongruity in interviews and received several explanations. Multiple investors responded that say-on-pay is viewed as a vote on the CEO's performance, rather than on CEO pay. Thus, if the CEO has performed well, investors will approve pay even if it is high. Second, many investors follow proxy advisors and vote for if the advisor recommends it; due to resource constraints, they focus their attention on cases with negative recommendations. Third, investors wishing to have a constructive relationship with management prefer to address concerns through engagement rather than voting against. Finally, if an investor has voted against, the company will repeatedly ask to meet in the future to seek the investors' approval of pay, imposing a significant time cost. This is the opposite of the concern typically voiced in the literature – that voting against management may reduce investor access.

In summary, our questions on who sets CEO pay yield the following conclusions:

1. Investors believe that they have insufficient influence on CEO pay, with fewer than 5% believing that shareholder influence is high. Some view other shareholders as not influencing pay in the right direction. In contrast, 37% of directors believe that investors have more influence than they should, and 57% believe that investor influence is at the right level.

[37] For example, in 2020, average support for the implementation vote exceeded 93% for both the FTSE 100 and FTSE 250 (Equiniti's Annual Review of AGM Trends 2020).

2. Both directors and investors believe that each other's advisors (compensation consultants and proxy agencies, respectively) have more influence than they should, causing excessive benchmarking and insufficient tailoring to company specifics.
3. Investors believe that CEOs have too much influence on their own pay. Some investors treat say-on-pay votes as an evaluation of CEO performance, and thus are reluctant to vote against pay if performance has been good.

Appendix B: Corporate Governance and Executive Pay in the UK

This appendix provides additional information on the UK context to supplement Section 2.3. We divide it into three sections: UK corporate governance regulation, further details on UK executive pay regulation, and stylized facts about UK executive pay.

B.1 UK Corporate Governance Regulation

Our survey focuses on non-executive directors of, and institutional investors in, UK Premium Listed companies. These are companies listed on the London Stock Exchange ("LSE") that conform to the most stringent corporate governance requirements.[38]

Corporate governance requirements for UK Premium Listed Companies, including those relating to executive pay, are found in company law (the Companies Act 2006), listing requirements (the Listing Rules), The UK Corporate Governance Code (the Code), and investor guidelines (in particular the Investment Association's Principles of Remuneration). Company law and listing requirements are binding. The Code operates on a comply-or-explain basis, but compliance is very high in areas such as executive pay. Through the Investment Association, investors made it clear that non-compliance would

[38] The LSE also has an Alternative Investment Market and a Main List (rather than the Premium List). These follow a less stringent set of rules, particularly in relation to disclosure and approval of executive pay, so their members were not included in our survey.

lead to significant opposition; proxy advisor guidelines state that non-compliance will likely lead to a "vote against" recommendation. Similarly, while investor guidelines are advisory, they have a significant influence on proxy recommendations and investor voting. Financial firms are subject to additional compulsory corporate governance rules imposed by the main UK regulators, the Prudential Regulatory Authority and the Financial Conduct Authority.

The UK operates a unitary board system, and the Code requires that boards have a majority of independent non-executive directors. In most cases, the only executive directors are the CEO and the CFO, so independent directors are a significant majority. Section 172(1) of the Companies Act requires directors to act in the interest of shareholders, and "in doing so have regard" to other stakeholders.[39] Under the Code, directors are re-elected annually by shareholders.

B.2 UK Executive Pay Regulation

As discussed in Section 2.3, UK companies must submit their remuneration policy to a binding triennial shareholder vote on policy and an annual non-binding vote on the implementation of that policy.[40] While RemCos have wide discretion over the choice of performance metrics and targets used from year to year, the structure and level of pay are more constrained. The policy will typically set out the maximum bonus and long-term incentive, expressed as a multiple of base salary. While the policy might allow for higher amounts to be paid in exceptional circumstances, this leeway is rarely used. So, in practice, the policy stipulates the structure of the CEO pay package (e.g., fixed versus variable, short versus long-term). The remuneration policy contains other design features such as the extent of bonus

[39] Section 172(2) allows for a company to have other purposes than the benefit of shareholders, but such cases are rare.
[40] If the policy vote is lost, the RemCo operates the existing policy until a new policy is approved at a shareholder meeting (typically within a year). Any payment the RemCo wishes to make outside of policy must receive separate approval through a shareholder vote, and is therefore exceptionally rare. If the implementation vote is lost, the remuneration policy must be brought back to the following year's shareholder meeting for reapproval via a binding vote, regardless of whether it is due in line with the company's triennial review cycle.

deferral, deferral and holding periods, shareholding requirements, malus and clawback rules, pension and benefit levels, and notice payments.

With the structure effectively fixed, the main lever to set pay levels is salary, which typically acts as a reference point for all other package elements (e.g., bonus is set as a multiple of salary). For an incumbent CEO, the policy typically constrains salary increases to be in line with wider employee salary increases or inflation, unless the CEO was an internal hire receiving faster salary increases while she "proves herself." Deviations from these guidelines are possible but rare, and likely to attract significant opposition in the implementation vote. Therefore, through the combination of policy and implementation votes, UK shareholders have a very strong influence on the level and structure of pay for incumbent CEOs. Shareholders are less inclined to intervene on the selection, calibration, and measurement of performance targets in incentive pay, and the policy will generally not constrain boards along these dimensions. However, inappropriate decisions on target setting or evaluation may cause opposition in the non-binding vote.

The Code requires any company receiving more than 20% of opposition in any shareholder vote (including say-on-pay) to issue a statement outlining the actions it will take in response, as well as a follow-up statement on actions taken six months later. The company also appears on the Investment Association's Public Register, to which public stigma is attached. As a result, 80% has become a "soft" approval requirement for say-on-pay votes, in addition to the formal threshold of 50%.

B.3 Stylized Facts on UK CEO Pay

While UK CEO pay differs from company to company, a "typical" pay package for a CEO of a Premium Listed Company comprises the following elements:

(a) A base salary paid in cash, of approximately £1m in the largest companies, falling to £200,000 to £300,000 in smaller companies.

(b) An annual bonus, typically paid two-thirds in cash and one-third in shares deferred for three years. The maximum bonus is up to 200% of salary for a large company and 100% of salary for a smaller one. Targets are based on a mix of financial and non-financial metrics, with the former dominating.

(c) A long-term incentive plan ("LTIP") award made in the form of shares. A portion of the shares vests after three years, subject to meeting performance conditions. Any shares that vest typically have to be held for a further two years. The maximum number of shares might be valued up to 400% of salary for a large company and 100%-150% for a smaller one. Targets are overwhelmingly based on share price and financial metrics, although non-financial metrics do appear in some cases.

(d) Share options are now rare in the UK. There is a nascent trend towards replacing LTIPs with restricted stock – deferred shares with no further performance conditions, other than an underpin to enable a reduction of the award in case of severe underperformance.

(e) Pensions are normally defined contribution, with cash supplements paid where limits on tax-approved pensions are exceeded. In response to the Code, amounts have been declining in recent years and are now trending towards a median of 10% of salary. Other benefits, such as cars and medical and life insurance, remain common.

(f) Shareholding requirements commonly apply, with executives required to hold shares of typically 400% of salary in the largest companies, declining to 100%-200% of salary in smaller ones. Executives are increasingly required to hold these shares for one to two years after leaving the company. FTSE 100 CEOs hold a median of £6.5m of equity in their firms.

(g) Contracts typically provide for 12 months' notice on either side. On termination without notice, an executive can expect to receive a payment in lieu of notice based on salary or salary plus

benefits. Bonus and LTIP awards may continue for leavers on a pro-rata basis for the time served if they are 'good leavers'.

Total pay levels are highly dependent on company size. Total realized CEO pay in 2019 for the median FTSE 100 company was £3.5m, failing to £1.5m in the FTSE 250 (companies ranked 101 to 350 by size) and less than £1m for FTSE Small-Cap companies. However, pay increases less rapidly than company size. While median CEO pay is around 0.25% of median market capitalization in the FTSE Small-Cap index, it is below 0.1% for the FTSE 250 and below 0.05% for the FTSE 100.

Appendix C: Survey Distribution

C.1 Directors

We used Capital IQ and BoardEx to compile a list of non-executive directors of FTSE Premium Listed Companies. We then sought to contact them providing a link to the survey in the following ways:

(a) By email or LinkedIn InMail if the director was known personally to one of the researchers or to London Business School's Advancement Office.

(b) For all others, we used a structured process for guessing emails based on standard corporate email formats and contacted those addresses.

(c) We then identified companies where we had no email address under (a) and where a majority of emails guessed under (b) had bounced back with error messages. For these we worked through the non-executive directors in alphabetical order until we identified a director with a profile on LinkedIn and contacted them via LinkedIn InMail.

(d) The following third parties distributed the survey to their director contacts: The Institute of Directors; The Non-Executive Director Association; and selected remuneration consultants.

Approaches (a) to (c) enabled us to directly contact at least one director at almost all target firms.

C.2 Investors

We adopted a similar approach to investors in our target group, comprising fund managers for UK equity funds listed on Trustnet and signatories to the Stewardship Code. We sought to contact them providing a link to the survey in the following ways:

(a) By email or LinkedIn InMail if the investor was known personally to one of the researchers or to London Business School's Advancement Office.

(b) By email to the lead stewardship contact listed in the firm's stewardship report.

(c) We used a structured process for guessing emails based on standard corporate email formats and contacted those addresses.

(d) The Investment Association distributed the survey to members of its key governance committees.

Table OA1

Demographics of non-executive directors

Panel A: What size is your firm?		
	%	N
FTSE 100	39%	80
FTSE 250	35%	72
FTSE Small Cap	22%	44
Don't know	3%	7
Total	100%	203
Panel B: What sector is your firm in?		
	%	N
Retail/Wholesale	10%	21
Mining/Construction	7%	15
Manufacturing	10%	21
Transportation/Energy	8%	17
Communication/Media	3%	6
Banking/Finance/Insurance	24%	49
Tech (Hardware/Software)	8%	16
Service/Consulting	4%	8
Healthcare/Pharmaceutical/Biotech	4%	9
Property/Real Estate	4%	9
Other	16%	32
Total	100%	203
Panel C: What best describes your role at the firm?		
	%	N
Chair	27%	55
Remuneration Committee Chair	33%	67
Remuneration Committee Member	24%	49
Other Non-Executive Director	16%	32
Total	100%	203
Panel D: What stake does your largest shareholder have?		
	%	N
>25%	18%	36
10-25%	27%	55
5-10%	40%	82
<5%	14%	29
Don't know	1%	1
Total	100%	203

Table OA2

Industry breakdown of survey sample versus FTSE All-Share (excluding investment trusts)

Industry	Survey Sample	FTSE All-Share
Retail/Wholesale	10%	9%
Mining/Construction	7%	8%
Manufacturing	10%	18%
Transportation/Energy	8%	6%
Communication/Media	3%	4%
Banking/Finance/Insurance	24%	23%
Tech (Hardware/Software)	8%	5%
Service/Consulting	4%	12%
Healthcare/Pharmaceutical/Biotech	4%	3%
Property/Real Estate	4%	3%
Other	16%	8%
Total	**100%**	**100%**

Table OA3

Demographics of investors

Panel A: What type of institutional investor are you?		
	%	N
Asset manager	80%	127
Asset owner	8%	12
Both	13%	20
Total	100%	159
Panel B: What best describes your role?		
	%	N
Governance, stewardship or responsible investment	52%	82
Stock analyst	8%	13
Fund manager	26%	42
Chief investment officer	6%	9
Other	8%	13
Total	100%	159
Panel C: What is your investment style?		
	%	N
Wholly index	1%	1
Mainly index	4%	6
Mainly active	28%	45
Wholly active	61%	97
Other	6%	10
Total	100%	159
Panel D: How large are your global equity assets under management?		
	%	N
More than £100b	47%	75
Between £50b and £100b	8%	13
Between £10b and £50b	20%	31
Less than £10b	25%	40
Total	100%	159

Table OA4

Q15a: Do you believe the overall level of CEO pay is too low, too high, or about right? (-2=far too low, 0=about right, 2=far too high)

Q15b: How strongly do you agree with the following statements for why the overall level of CEO pay is so high? (-2=strongly disagree, 2=strongly agree)

All responses are from investors.

Panel A							
	Mean	-2	-1	0	1	2	N
Do you believe the overall level of CEO pay is too low, too high, or about right?	0.95 [a]	0%	4%	20%	55%	22%	132
Panel B							
	Mean	-2	-1	0	1	2	N
Boards are ineffective at lowering it even though they should	1.22 [a]	1%	2%	11%	47%	40%	101
Investors have insufficient power over boards to lower it	0.48 [a]	6%	16%	22%	38%	19%	101
Investors focus their engagement on more important topics than the level of pay	-0.07	9%	39%	17%	22%	14%	101

The superscript reports whether the mean is significantly different from zero. a, b, and c represent statistical significance at the 1%, 5%, and 10% level, respectively.

Table OA5

Q16: How much influence do you believe investors have on CEO pay? (-2=no influence, 2=high influence)

All responses are from investors.

	Mean	-2	-1	0	1	2	N
How much influence do you believe investors have on CEO pay?	0.21 [a]	2%	18%	40%	35%	5%	132

The superscript reports whether the mean is significantly different from zero. a, b, and c represent statistical significance at the 1%, 5%, and 10% level, respectively.

Table OA6

Q14: How much do the following influence CEO pay compared to the optimal level? (-2=much less than they should, 0=about right, 2=much more than they should)

The first row of responses for each option (not italicized) is from directors, the second row (italicized) is from investors.

	Mean	-2	-1	0	1	2	N
Proxy advisors	1.00 [a,a]	1%	6%	21%	35%	36%	170
	0.33 [a,a]	*1%*	*17%*	*39%*	*34%*	*9%*	*132*
Investors	0.38 [a,a]	2%	4%	57%	29%	8%	170
	-0.65 [a,a]	*11%*	*51%*	*30%*	*7%*	*1%*	*132*
Pay consultants	0.32 [a,a]	2%	4%	64%	22%	9%	170
	0.97 [a,a]	*2%*	*4%*	*23%*	*36%*	*35%*	*132*
CEO	0.24 [a,a]	1%	4%	68%	24%	3%	170
	0.80 [a,a]	*1%*	*2%*	*33%*	*45%*	*19%*	*132*
Employees, the media, customers, or policymakers	0.08 [–,c]	2%	15%	59%	19%	4%	170
	-0.11 [–,c]	*8%*	*27%*	*38%*	*23%*	*5%*	*132*
Board	-0.06 [–,–]	4%	9%	76%	8%	2%	170
	-0.11 [–,–]	*2%*	*30%*	*48%*	*15%*	*5%*	*132*
HR director	-0.18 [a,b]	6%	12%	76%	5%	1%	170
	0.04 [–,b]	*5%*	*14%*	*60%*	*14%*	*7%*	*132*

The first superscript reports whether the mean is significantly different from zero, the second whether they are significantly different for directors and investors. a, b, and c represent statistical significance at the 1%, 5%, and 10% level, respectively.

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