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Abstract: We examine how corporate cultures characterized by high degrees of *homogeneity* in the underlying values and beliefs of organizational members are related to the design of CEO incentive compensation contracts. We argue that culture homogeneity within firms lowers *ex post* monitoring costs for boards and shareholders and reduces the need to rely on *ex ante* incentives for CEOs and other top executives. Drawing on economic theories of corporate culture and using a text-based measure of corporate culture homogeneity, we predict and find that firms with higher degrees of corporate culture homogeneity tend to rely less on CEO equity pay and more on non-financial performance metrics conditional on granting equity. We also find that firms with higher degrees of corporate culture homogeneity do not substitute lower equity pay with higher fixed pay or bonuses, yielding both lower CEO variable and total pay. These results also hold for CFOs and other top executives. Our study contributes to the literatures on both corporate culture and CEO compensation by providing the first systematic evidence that corporate culture homogeneity is an important consideration in understanding differences in the design of top executive incentives across firms.

Keywords: corporate culture, CEO compensation, incentive design, equity pay, performance measurement.

1. Introduction

Theories from economics, strategy, and organizational behavior model the strength of corporate cultures in terms of *homogeneity* – the degree to which corporate values and beliefs are widely shared and strongly held among corporate members – and demonstrate that a high degree of corporate culture homogeneity can reduce agency costs within firms (Camerer and Vepsalainen 1988; Kreps 1990; O'Reilly and Chatman 1996; Van den Steen 2010a, 2010b; Chatman et al. 2014). Analytical and empirical work based on these theories shows that a high degree of corporate culture homogeneity can function as a mechanism of interest and preference alignment within firms, leading to stronger employee motivation, higher coordination efficiency, and less conflicts within firms (Van den Steen 2010b; Campbell 2012). Despite these theories and findings having direct implications for the task and monitoring environments faced by CEOs and their boards, empirical evidence on the role of corporate culture homogeneity in facilitating incentive alignment between firms and shareholders is generally lacking. In this study, we explore this issue by examining how corporate culture homogeneity within firms is associated with the design of CEO compensation contracts.

Corporate culture homogeneity captures the degree to which different individuals within a firm share the same beliefs, values, and preferences (Van den Steen 2010a, 2010b). For example, Handelsbanken and Southwest Airlines, the former notable for its long-standing corporate culture centered on the primacy of human-centered decision-making in banking and the latter for its strong culture of collaboration and empathy among employees, both institute a variety of unique internal management practices to ensure that their preferred corporate values are widely shared and strongly held among employees. The specific content of such strong corporate cultures can be highly idiosyncratic to different firms and difficult for outsiders to classify or replicate.

Nevertheless, the high degrees of homogeneity in employees' beliefs are widely viewed as leading to better alignment between executives and employees within these firms (Gitell 2002; Kroner 2010; Hamel and Zanini 2020). Theories and evidence indicate that, due to such increased alignment, corporate culture homogeneity is associated with a range of desirable firm features, including more delegation, less monitoring, higher employee motivation, more horizontal communication among employees, faster decision-making, and ultimately higher productivity (Crémer 1993; Sørensen 2002; Van den Steen 2010a, 2010b; Corritore, Goldberg, and Srivastava 2020).

These features of culturally homogeneous firms, in theory, have at least three implications for the design of their executive compensation contracts. First, the internal organization features of culturally homogeneous firms could reduce task complexity for their CEOs and the need for boards to use compensation contracts to incentivize CEOs to take costly actions to further enhance internal organization efficiency. Second, corporate culture is widely recognized in the literature as evolving to be well adapted for firms given the environments in which they operate (Schein 1985; Kreps 1990; O'Reilly and Chatman 1996). Therefore, for firms that have already developed high degrees of corporate culture homogeneity, boards may be more reluctant to impose risk in their compensation choices which might induce CEOs to take decisions that could weaken or otherwise alter the existing culture. Third, the widely shared and strongly held cultural values and beliefs that have evolved in firms with high degrees of corporate culture homogeneity can function as a benchmark for boards to evaluate CEO actions in uncertain environments (e.g. Kreps 1990). Therefore, it may be easier for the boards of these companies to *ex post* monitor CEO performance and rely less on *ex ante* incentive alignment.

Because corporate culture is widely viewed as a stable feature of organizations that evolves to help them adapt to their respective environments and affects a variety of organizational features and outcomes (O'Reilly and Chatman 1996; Sørensen 2002; Van den Steen 2010b), our theoretical framework and empirical models reflect an assumption that boards are, in equilibrium, making CEO compensation decisions taking the existing culture into account. We predict that, due to reductions in both agency and monitoring costs, firms with high degrees of corporate culture homogeneity would rely less on equity-based pay than their culturally heterogeneous counterparts. We also explore how corporate culture homogeneity could be associated with other elements and features of CEO incentive contracts, such as the bonus, salary, and total pay as well as the use of non-financial performance metrics.

Anecdotally, it is not difficult to find real-life examples that fit our predictions. Consider the examples of Handelsbanken and Southwest Airlines noted earlier for their high degrees of culture homogeneity. Handelsbanken does not use equity-related incentive programs for any of its executive officers (Kroner 2010; Bhide et. al. 2015). In fact, it states explicitly that "...the Board has established that the Bank's remuneration system must be consistent with the Bank's business objectives and business culture..." and that "...fixed remuneration is fit-for-purpose for sound, sustainable operations, and is therefore applied as a basic principle. Variable remuneration is applied with great caution" (Handelsbanken Annual and Sustainability Report, 2022, p86). Southwest Airlines relies more substantively on equity pay in its CEO compensation but does so with less intensity and conditional on considerably more non-financial metrics than its similarly sized airline peers. While these examples are illustrative, it remains an open empirical question

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¹ In the data used for this paper, described in Section 3, average equity as a percentage of total pay stands at 59.5% for Southwest Airlines versus 66.3% for its large industry peers in our sample including American, Delta, United, Alaska, and JetBlue Airlines. The average number of non-financial metrics used in CEO bonus contracts stands at 8 for Southwest versus 2.3 for these same industry peers.

whether and how corporate culture homogeneity is associated with the design of executive compensation.

We capture corporate culture homogeneity using a text-based measure developed by Corritore et al. (2020), which assesses the degree of homogeneity in employees' culture-related comments posted on the company review website Glassdoor.com. In particular, this measure captures the similarity in the distributions of the cultural topics mentioned across employees' written comments for each firm year. By focusing on the degree to which different corporate members systematically share the same perceptions about the culture in their firm, this measurement approach is well aligned with economic theory-based definitions of corporate culture homogeneity. To better test our predictions about the equilibrium relationship between corporate culture homogeneity and CEO compensation design, we also construct indicators for firms with stable long-term culture homogeneity versus heterogeneity and create a matched sub-sample based on propensity score matching. We conduct a range of validity analyses and provide illustrative examples for both our continuous and long-term culture homogeneity measures. Besides Glassdoor, we also draw on several other data sources (i.e., Compustat, ExecuComp, CRSP, and Incentive Lab). Our final sample spans from 2010 to 2019, including more than 1,000 (5,000) U.S. public firms (firm-year observations).

Our results first document that firms with higher degrees of corporate culture homogeneity tend to have significantly lower levels (percentages) of CEO equity pay (equity to total pay). We also find that these firms do not appear to substitute equity pay with salary or cash bonuses, resulting in significantly lower levels of CEO total pay and lower (higher) percentages of variable (fixed) to total pay. We further find that, when adopting equity pay, firms with higher degrees of corporate

culture homogeneity tend to use a significantly larger number of non-financial performance measures. We perform a range of robustness checks for our main results.

Further, we extend our analyses of *explicit* CEO incentive contracts to examine whether similar patterns hold for CEO *implicit* incentives. We find similar patterns of weaker CEO incentives in culturally homogeneous firms with the sensitivity of forced CEO turnover to both accounting and market performance decreasing with the degree of culture homogeneity. We also find that corporate culture homogeneity is associated with weaker tournament incentives of executives, which are proxied by the pay gaps between CEOs and other top executives. Additionally, we examine the association between corporate culture homogeneity and the compensation of CFO and other top executives and find that the results are similar in terms of direction and significance when compared to our CEO compensation results.

Our findings contribute to the multidisciplinary literature on corporate culture. While prior studies document how corporate culture is associated with firm outcomes such as performance and misconduct (e.g., Sørensen 2002; Guiso, Sapienza, and Zingales 2015; Liu 2016; Graham et al. 2022; Corritore et al. 2020), there is less evidence on how corporate culture is associated with firms' design of formal controls such as incentive contracts. We provide some of the first direct empirical evidence of the relationships between corporate culture and both the level of equity pay and strength of incentives for top executives. By focusing on CEOs, our study further contributes to this literature by showing that theories of corporate culture and formal incentives, which have largely been developed in the context of the internal organization of firms, are also important for understanding differences in external contracting between top executives and shareholders across firms.

Our findings also contribute to the literature on CEO compensation by documenting corporate culture homogeneity as an important factor in explaining the variation in CEO compensation design across different companies. Despite acknowledging the significance of corporate culture in corporate governance frameworks, the connection between corporate culture and CEO compensation design has not been thoroughly explored (Graham et al. 2022). Our empirical findings provide the first systematic evidence that corporate culture homogeneity is an important consideration in the design of CEO incentives, being associated with a range of compensation plan design features including the reliance on equity, the use of non-financial performance measures, and implicit incentives.² The consistency in our findings across such a broad range of incentive design choices points to corporate culture homogeneity as an important factor in top executive compensation contracting.

The remainder of this paper is structured as follows. Section 2 discusses related literature and develops our theoretical framework. Section 3 describes our sample and variables. Section 4 describes our empirical methods and descriptive statistics. Sections 5 and 6 discuss the main and additional analyses and results, respectively. Section 7 provides concluding remarks.

2. Theory and Hypothesis Development

2.1 What is Corporate Culture Homogeneity?

Corporate culture is defined as the shared values, beliefs, preferences, and norms that guide corporate members' expectations and actions (O'Reilly and Chatman 1996; Van den Steen 2010a, 2010b). An important dimension of corporate culture is *homogeneity*, the degree to which these cultural values, beliefs, preferences, and norms are widely shared by corporate members. It captures the alignment among corporate members' cultural perceptions of their firm (Corritore et

² While other studies have examined the role of *national* culture in CEO compensation design (e.g., Tosi and Greckhamer 2004), *corporate* culture is a distinct construct and can vary considerably within a given country or even within a given industry.

al. 2020). To illustrate, assume two firms, A and B, both claim that they focus on a cultural belief, X. In firm A, belief X is shared by all employees, guiding their expectations and actions in daily practice. By contrast, in firm B, different employees hold and follow different beliefs from each other in practice, even though the firm claims that it values belief X. In this hypothetical example, firm A has a higher degree of corporate culture homogeneity than firm B.

As noted earlier, Southwest Airlines is a typical and widely cited example of a firm with strong culture, in this case, one characterized in part by a shared value of collaboration and empathy among its employees (Gittel 2016). Many aspects of Southwest's organizational success have been attributed to the homogeneity in this underlying cultural value including faster turnaround of its planes allowing more flights per day, higher customer satisfaction, and better overall productivity (Gittel 2016; Heskett et. al. 1994). For example, much of the coordination needed to achieve fast turnaround requires employees from different functions (e.g. customer service representatives, gate agents, and cleaning crew) to work together. This is facilitated by employees having strongly homogeneous shared beliefs in the value of collaboration and would be hindered if some employees either did not share this value or even believed more strongly in the sanctity of individual, and often unionized, functional roles (Gittel 2016).

Like Southwest, many firms proclaim that they focus on certain cultural values, such as innovation, teamwork, integrity, and many others (Guiso et al. 2015; Li et al. 2021). However, unlike Southwest, only a small number of these firms are commonly recognized as having strong corporate cultures that can systematically shape the decisions and behavioral patterns of their managers and employees. Without being widely shared and strongly held by corporate members, the proclaimed culture content would have little influence on inducing desired behaviors (Chen 2023).

Theories and evidence suggest that corporate culture homogeneity has implications for organization design and firm performance that are independent of culture content (Sørensen 2002; Van den Steen 2010a, 2010b; Corritore et al. 2020). Specific culture content and its role in organizational success are often idiosyncratic across different firms and industries (Corritore et al. 2020). Further, even though the upper-level management teams of different firms may state broadly similar cultural values, the specific beliefs, preferences, and norms developed at the operational level can be very idiosyncratic across firms and difficult for outsiders to classify and generalize (Gorton, Grennan, and Zentefis 2022; Chen 2023). In comparison, the effects of culture homogeneity are more stable (Corritore et al. 2020). By inducing alignment in employees' beliefs, a high degree of corporate culture homogeneity can lead to lower agency costs and fewer conflicts within firms, and thus has implications for various firm features and outcomes (Van den Steen 2010a, 2010b).

We follow the economic literature that links corporate culture to agency problems and features of internal organization by focusing on culture homogeneity. We start by articulating the findings from this literature which focus on the benefits of corporate culture homogeneity. Theories from this literature, in turn, provide a useful benchmark for understanding the implications of corporate culture homogeneity for CEO incentive contracting.

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³ An example mentioned in Corritore et al. (2020) is that moving fast may be important to a firm competing in a fast-paced technology market, but it would not be suitable for organizations where minor errors can have devastating implications.

⁴ Consider the example of Southwest Airlines. Some outsiders might characterize its culture as one of "collaboration" (e.g. Gittel 2016) while others might classify it as one of "frugality" (e.g. Anderson and Lillis, 2011). Southwest Airlines themselves characterize it as a culture of "caring", an overarching value that might manifest in collaboration (e.g. empathy for and willingness to work with other employees as in Gittel (2016)), frugality (e.g. treating corporate assets with "...sense of responsibility and stewardship" as in Anderson and Lillis (2011)), or both. As this example raises, corporate culture *content* is difficult for outsiders to characterize with simple classification schemes and can be highly idiosyncratic to individual firms. We focus on *homogeneity* rather than content in part for this reason, and in larger part because the primary economic theories about the link between corporate culture, organizational design, task complexity, and incentives that are important for our hypotheses focus on culture homogeneity independent of content.

2.2 Corporate Culture Homogeneity and Internal Organization

A high degree of corporate culture homogeneity can function as a form of "social control," through which a firm can effectively communicate its goals and appropriate course of actions and thus align employee behaviors with its interests.⁵ In particular, O'Reilly and Chatman (1996) suggest that a high degree of corporate culture homogeneity can guide and constrain corporate members' behaviors through informational and social influence. The widely shared and strongly held values and norms in culturally homogeneous firms set expectations about appropriate attitudes and behaviors for corporate members. Those who violate these values and norms, regardless of their formal authorities or positions, are subject to social pressure or even sanctions from other corporate members (Camerer and Vepsalainen 1988; O'Reilly and Chatman 1996). Besides guiding corporate members' behaviors, a high level of corporate culture homogeneity also provides them with intrinsic motivation to work towards organizational goals and interests (Graham et al. 2022). For example, Akerlof and Kranton (2000, 2005) suggest that employees who strongly identify with the corporate culture of their firm derive intrinsic utility when working in the interest of their organizations, even when material rewards such as financial incentives are low or absent.

The effects of corporate culture homogeneity have implications for various firm features and outcomes. Early economic theories focus on corporate culture as shared knowledge which enhances coordination in the presence of barriers to information processing and transmission within organizations (Crémer 1993; Crémer, Garicano, and Prat 2007). Building on this tradition, Van den Steen (2010b) models corporate culture in terms of shared beliefs. His model predicts

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⁵ According to O'Reilly and Chatman (1996), control systems encompass formal and social controls. While formal controls (e.g., performance measurement, financial rewards, training and supervision) guide employee behaviors through rules, procedures, and organizational hierarchies and authorities, social controls (e.g., peer pressure, trust, work norms) guide employee behaviors through informational and normative influence as well as intrinsic motivation (O'Reilly and Chatman 1996; Graham et al. 2022).

that, due to the alignment in corporate members' beliefs, culturally homogeneous firms would have more delegation, less monitoring, enhanced horizontal coordination, higher degrees of intrinsic motivation, less conflict, and reductions in the need for influence activities. Echoing these organizational benefits, survey- and interview-based analyses conducted by Graham et al. (2022) on more than 1,000 North American firms suggest that at least 90% of the senior executives in their sample believe that enhancing corporate culture will have moderate to large effects on the productivity, profitability, and market value of their firms.

While the theories about corporate culture homogeneity do not preclude the idea that homogeneous, yet dysfunctional, cultures might emerge in a given firm over a given time period, they do presume that on average, strong cultures (in terms of high levels of homogeneity) would be those that evolved to be well adapted for firms given the environments in which they operate (Schein 1985; Kreps 1990; O'Reilly and Chatman 1996). Throughout this paper, we rely on these equilibrium theories of corporate culture and internal organization.

2.3 Corporate Culture Homogeneity and the Design of CEO Compensation Contracts

2.3.1 Corporate culture homogeneity and CEO pay structure

Collectively, the literature noted above suggests that corporate culture homogeneity relates to several organizational design features and motivation mechanisms that can enhance the efficiency of internal organization. In this way, corporate culture homogeneity acts as a fundamental economic mechanism of interest alignment between top executives and employees. For a variety of reasons that we outline below, it should then reduce the complexity of the task environment faced by CEOs and other senior executives within their firms and lead to weaker top executive incentives, all else equal.

First, CEOs in firms with high degrees of culture homogeneity should be able to devote less time and effort to tasks related to internal motivation, coordination, and monitoring. A key insight of Van den Steen (2010b) is that (1) all agency problems essentially arise from differences in objectives and (2) shared beliefs and values reduce or eliminate such differences. Better alignment arising from shared beliefs and values enhances the CEO's ability to delegate authority and empower employees to make decisions, which can increase organizational efficiency (O'Reilly and Chatman 1996; Van den Steen 2010b). In contrast, CEOs in firms with low degrees of culture homogeneity can rely less on corporate culture to solve challenges of internal organization. Instead, they face the additional complexity of developing, implementing, and maintaining more of the formal control systems to solve motivation, coordination, and monitoring problems in their organizations (Van den Steen 2010b).

Second, another source of complexity that arises in organizations is the potential for conflict which requires active and ongoing intervention by senior executives. As noted above, an important insight of analytical economic models of corporate culture such as those of Van den Steen (2010a, 2010b) and Crémer (1993) is that corporate culture plays a crucial role in interest alignment and coordination even in the absence of agency issues. That is, even when incentives within organizations are aligned with corporate objectives, top executive teams may need to expend considerable time and effort managing and resolving open conflict among employees about how to achieve the shared objectives. Such costly "influence activities" would, in general, be expected to decrease with the degree of corporate culture homogeneity (Van den Steen 2010b).

Third, CEOs in firms with low levels of culture homogeneity may need to be incentivized to solve problems of internal organization through costly efforts undertaken to strengthen corporate culture (i.e., increase culture homogeneity). These might include implementing new systems of

core values; transforming systems for employee recruitment, selection, training, and motivation (O'Reilly and Chatman 1996; Van den Steen 2010b; Campbell 2012) and developing, communicating, and reinforcing their managerial "vision" (Van den Steen 2007, 2010b). Undertaking efforts to strengthen corporate culture is viewed as a senior executive priority, but one that is challenging to pursue. Supporting this idea, survey evidence suggests that over 90% of executives view corporate culture as substantively linked to value in their organizations but only 16% believe their culture is where it should be (Graham et al. 2022).

The above arguments suggest that CEOs in firms with high degrees of culture homogeneity face a less complex task environment, all else equal. As a result, we expect boards of such firms to have less need to rely on equity or other strong performance-linked incentives to motivate CEOs, and to be more reluctant to induce CEO risk-taking, due to the presence of more stable and specific underlying management practices and decision-making patterns relative to firms without high degrees of culture homogeneity (Corritore et al. 2020; Guiso et al. 2015; Kotter 2008; Sørensen 2002).^{6,7}

In addition to its more direct implications for task complexity and CEO incentives, corporate culture homogeneity may also facilitate less costly monitoring by boards of directors. Lower organizational complexity, facilitated by increased corporate culture homogeneity, should in general make monitoring between shareholders and the firm less costly and more efficient

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Note that lower CEO risk-taking incentives do not preclude a particular culture of "risk-taking" or "innovation" within the firm. Such cultures would be characterized by homogeneous behavioral norms and underlying values related to dimensions such as "tolerance for failure", "acceptance of mistakes", "challenging the status quo", or "innovation being part of everyone's job" (Chatman and O'Reilly 1996). Lower CEO risk taking incentives in such firms would be expected to facilitate more stability in such cultures as CEOs would face less pressure to experiment with and change organizational systems (e.g. internal incentive and reward systems) that support these cultural values and norms.

⁷ Consistent with such stability benefits of corporate culture homogeneity, the performance characteristics of culturally homogeneous firms have been shown to differ substantively from their culturally heterogeneous counterparts. Most notably, prior research using a range of different measures of corporate culture has demonstrated that a high level of corporate homogeneity is associated with less variable performance over time (Sørensen 2002; Kotter 2008; Corritore et al. 2020).

(Bushman et. al. 2004). Moreover, per the literature outlined earlier in Section 2.2, homogeneity in corporate culture emerges, in equilibrium, because the underlying shared beliefs and resulting norms and behaviors have allowed firms to adapt to unforeseen contingencies over time in relatively predictable ways. That is, strongly and widely held cultural values can act as "focal points" or principles for desired behaviors and decisions in the presence of uncertainty (Kreps 1990) and play a strong role in setting expectations about appropriate actions and behaviors of corporate members (Chatman and O'Reilly 1996). Because such widely shared and understood principles can act as a benchmark to evaluate CEO actions in uncertain environments, we expect that it is easier for boards to *ex post* monitor their performance. This increased *ex post* monitoring efficiency can reduce the need to rely on *ex ante* incentive alignment via equity incentives or other forms of performance-linked pay.

Overall, these arguments suggest that firms with high degrees of culture homogeneity may have lower need to use high powered *ex ante* incentives to motivate their CEOs and that boards of such firms may be more reluctant to induce CEO risk taking in their executive compensation contracts. To explore this idea, we focus primarily on examining whether culturally homogeneous firms rely less on equity pay in their CEO compensation contracts than their culturally heterogeneous counterparts. Equity pay is typically the major component of variable CEO compensation and plays an important role in inducing interest alignment (Core, Guay, and Verrecchia 2003; Groysberg et al. 2018). Accordingly, we hypothesize that:

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⁸ For an interesting example of this idea, consider the case of Handelsbanken noted earlier in the paper. This is an organization that relies on a flat salary and no equity grants for its CEO and other top executives, hires CEOs internally, and CEOs tend to serve multi-year terms. In 2016, the Handelsbanken board fired its then CEO after only 18 months on the job, a move that was widely seen as driven by that CEO taking actions that, while well within industry standard practices (e.g. shifting resources from physical branches to technology enabled banking), were considered at odds with the bank's longstanding culture of extreme branch manager autonomy and human-judgment centered decision-making.

Hypothesis 1 (H1). Firms with high corporate culture homogeneity rely less on equity pay in their CEO compensation contracts than firms with low corporate culture homogeneity.

In addition to equity pay, we also examine the overall variable compensation received by CEOs as well as the implicit incentives embedded in the relationship between CEO turnover and firm performance. While we make no direct predictions on the relationship between corporate culture homogeneity and CEO total pay, we do further examine this relationship to explore the extent to which any expected shifts away from equity-based pay are compensated by increases in bonus and fixed pay or are, instead, associated with lower overall CEO pay for culturally homogeneous firms.

2.3.3 Corporate culture homogeneity and performance measures

When using equity pay in their CEO compensation contracts, we expect firms with high degrees of corporate culture homogeneity to rely more on non-financial performance measures than their culturally heterogeneous counterparts. Compared to financial performance measures, which are more aggregate, non-financial performance measures contain more specific information about the dimensions of managerial effort desired by firms (Ittner, Larcker, and Rajan 1997). Boards of culturally homogeneous firms may not only seek to encourage CEOs to achieve high firm value for shareholders, but also care whether the decisions, actions, and processes that lead to firm value in a given period are aligned with the organization's cultural values and norms (O'Reilly and Chatman 1996; Guiso et al. 2015). Non-financial metrics could be used in this context to align CEOs more directly on these more specific dimensions of their effort. In contrast, CEO task complexity in culturally heterogeneous firms may make non-financial measures less valuable for contracting purposes. Therefore, we hypothesize that:

Hypothesis 2 (H2). When using equity in their CEO compensation contracts, firms with high corporate culture homogeneity rely more on non-financial performance measures than firms with low corporate culture homogeneity.

2.4 Employee Comments as a Window into Corporate Culture

Testing the hypotheses articulated in this section requires a consistent measure of corporate culture homogeneity across firms and over time. Upper-level managers and directors may talk about certain cultural values that they focus on during a particular period of time. However, it is usually unclear to what extent these values are shared among the middle- and lower-levels of a firm and whether there are other cultural norms and beliefs existing within the firm. In order to measure corporate culture homogeneity, it is important for us to gather information about the beliefs, values, and norms that employees have actually experienced in their daily operations and practices (Dyck, Morse, and Zingales 2010; Guiso et al. 2015; Campbell and Shang 2022). Recent work demonstrates that the language used by employees to describe their firms can be used to develop proxies for corporate culture homogeneity (Corritore et al. 2020). This approach derives from the theories and evidence about the role of language and communication in reflecting the underlying assumptions, beliefs, and values that shape the behavior and decision norms prevalent within organizations (Crémer et al. 2007; Goldberg et al. 2016; Srivastava et al. 2018).

Following Corritore et al. (2020), we argue that when explicitly talking about the corporate cultures in their firms, employees consciously describe the values, beliefs, preferences, and norms that they perceive and/or experience in their daily work. The degree of corporate culture homogeneity can thus be interpreted as the similarity of the topics that employees mention when commenting on the culture of their firms. This approach focuses on the distribution of cultural topics mentioned by employees, without assuming that some cultural topics are more important

than the others, since the development and effects of different culture values and norms are likely to vary across different industries and firms.

We capture corporate culture homogeneity using employees' written comments about their firms posted on the company review website, Glassdoor.com. Glassdoor allows employees to leave anonymous comments and ratings about their firms and collects a rich number of reviews about numerous organizations across the world. Recent research finds that the written comments shared by employees about their firms on Glassdoor contain important information about the control and operating practices, internal environment, and corporate culture of firms (e.g., Luo, Zhou, and Shon 2016; Corritore et al. 2020; Campbell and Shang 2022). Following a text-based approach developed in prior research (e.g., Corritore et al. 2020), we measure corporate culture homogeneity by training a Latent Dirichlet Allocation (LDA) model based on the sentences that mention corporate culture and/or its synonym(s). The following section provides more details about our data and measurement of corporate culture homogeneity.

3. Sample and Variables

3.1 Data and Sample

We use data from four primary sources for this study. Our initial sample consists of data on employee comments from Glassdoor.com. We extract the reviews of firms that are located in the U.S., publicly traded, and with ticker symbols from June 2008 (when Glassdoor first launched the review section) to December 2019. We exclude firms that received less than 50 reviews during this period to ensure that there are sufficient reviews to construct our culture measure, and firm-years with less than 25 reviews to ensure that our culture measure is reliable and not driven by a few number of reviews (Corritore et al. 2020). We also drop the data for 2008 and 2009 because

most firms received much fewer reviews in the first 1-2 years when Glassdoor was first launched, and these reviews may also be subject to the influence of the 2008 financial crisis.

We then obtain CEO characteristics and executive compensation from ExecuComp, firm-specific accounting information from Compustat, and stock price information from the Center for Research in Security Prices (CRSP). After excluding observations with missing values in the main variables, our final main sample includes 5,575 observations representing 1,005 unique firms between 2010-2019. For H2 and some of the additional analyses, we use data from Incentive Lab and it reduces our sample for these analyses to 4,086 firm-years representing 692 unique firms.

3.2 Measuring Corporate Culture Homogeneity

We measure corporate culture homogeneity based on Glassdoor data, using the text-based method developed by Corritore et al. (2020). We first process the employee comments posted on Glassdoor.com using textual analysis, then construct our variable of corporate culture homogeneity, and perform a range of validity tests. We also develop long-term indicators for firms with stable culture homogeneity versus heterogeneity to better analyze the equilibrium relationship between corporate culture homogeneity and CEO compensation design. The following subsections describe each of these steps in detail.

3.2.1 Identifying culture-related topics using textual analysis

We first clean and organize the words used in employees' written comments extracted from Glassdoor.com, by eliminating any non-English words, numbers, punctuations, stop words (e.g., 'the', 'is', 'at', 'that') and spelling mistakes that cannot be fixed. We then stem each word back to its root using the Porter stemming algorithm (Porter 1980) and the Natural Language Toolkit

⁹ Misspelling and mistakes are detected and fixed through three steps: (1) check if the word exists in the English dictionary, if yes, leave it as its current form; (2) if the word does not exist, account for corrections (i.e., any alphabet replaced, added or omitted). If corrected word exists in dictionary, leave it as the corrected form; and (3) if the corrected word still does not exist in the dictionary, it is likely to be a non-English word and therefore removed from our analysis.

(Loper and Bird 2002) to reduce redundancies. Next, we represent each review as a vector of unigram counts by identifying the number of times each individual word appears in the review (Corritore et al. 2020).

We then train a LDA topic model to identify distinct cultural topics mentioned in employees' reviews across the entire Glassdoor data we obtained about U.S. public firms. We identify the sentences that mentioned "culture" and/or a synonym (e.g., norm, value, philosophy, belief). We argue that the presence of the term "culture" and/or its synonym(s) indicates that a given phrase contains content relevant to corporate culture (Corritore et al. 2020). This gives us 987,201 culture-related sentences. Following Corritore et al. (2020), we parameterize LDA to identify 500 topics present in these culture-related sentences. ¹⁰ Each topic is characterized by a weighted set of words that tend to co-occur within a culture-related sentence. Appendix 1 shows the highest-weighted words for some of the most frequently mentioned LDA topics in our sample as well as some randomly selected topics which represent average LDA topics identified by our model. For each of these topics, we chose a simple label that generally captures its underlying meaning. The LDA topics indeed appear to be reflective of employees' perceptions about the corporate cultures in their firms.

3.2.2 Constructing the corporate culture homogeneity measure

After identifying cultural topics using the training set of sentences with explicit cultural references, we fit the LDA model to the reviews we obtained about U.S. public firms. LDA assigns each review to a probability distribution over multiple topics. That is, each review i is represented as a probability distribution p indicating the relative proportion of each cultural topic c. We then

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¹⁰ The goal of choosing the number of topics is not to assess the content of the cultural topics, but to analyze the distribution of cultural topics between reviews/employees. Following Corritore et al. (2020), we output 500 topics to ensure that we tease apart conceptually meaningful distinctions between cultural topics. For more details about this methodology, see Corritore et al. (2020) and the related online appendix.

measure the interpersonal cultural heterogeneity for a given firm-year as the mean Jensen–Shannon (JS) divergence between the LDA probability distributions for all unordered pairs of reviews i, j for that firm-year. JS divergence is a symmetric measure of the dissimilarity of two probability distributions and has been used in prior research to measure the (dis)similarity of organizational members' language (e.g., Goldberg et al. 2016; Srivastava et al. 2018). That is, the interpersonal cultural heterogeneity that we generate at this step measures the degree to which a firm's employees in a given year comment on the firm with dissimilar cultural topics. Following Corritore et al. (2020), we standardized the interpersonal cultural heterogeneity measure to facilitate a normal distribution. 11

We construct our measure of corporate culture homogeneity (*Culture Homogeneity*) as the inverse of the standardized interpersonal cultural heterogeneity. Figure 1 provides a stylized illustration of how our measure captures different levels of corporate culture homogeneity based on the LDA topic probability distributions across individual reviews in a given firm-year. Assume that two hypothetical firms, A and B, both had three employee reviews in a given year. Firm A had a high level of culture homogeneity, given that all of its employee reviews shared similar distributions of cultural topics, indicating different employees shared similar perceptions about the firm's corporate culture. In contrast, firm B had a low level of culture homogeneity, since its employee reviews had more dissimilar culture topic distributions, indicating that different employees had very different perceptions about firm B's corporate culture.

3.2.3 Validity tests for the corporate culture homogeneity measure

Considering the central place of corporate culture in our study, we conduct a range of additional analyses to test the validity of our *Culture Homogeneity* measure. First, we examine the convergent

 11 For more details of this methodology, see Corritore et al. (2020) and the related online appendix.

validity of our measure by testing its correlations with the factors that are in theory related to corporate culture homogeneity. For example, it could be more difficult for firms with more business and/or geographic segments to develop high degrees of culture homogeneity, given that different segments may have different or even conflicting operational styles and cultures (Bushman et al. 2004). Therefore, we expect firms with more segments to have on average lower degrees of corporate culture homogeneity. We indeed find that our *Culture Homogeneity* measure is negatively correlated with the numbers of business segments ($\rho = -0.10$, p < 0.01) and geographic segments ($\rho = -0.12$, p < 0.01). Additionally, Van den Steen (2010a) suggests that mergers and acquisitions (M&A) could lead to "culture clashes" and reduce corporate culture homogeneity. Therefore, we expect firms' M&A activities to be negatively associated with their corporate culture homogeneity. We find that our *Culture Homogeneity* measure is indeed negatively associated with whether firms had M&A ($\beta = -0.13$, p < 0.01) and the number of M&A activities $(\beta = -0.08$, p < 0.01) in the previous year.

Second, we find that our *Culture Homogeneity* measure is not significantly correlated with the number of reviews received by each firm-year ($\rho = -0.01$, p > 0.10) or firm size in terms of employee number ($\rho = 0.02$, p > 0.10), suggesting that our measure is not "mechanically" driven by these features. Besides written comments, Glassdoor publishes employee ratings of their firms in terms of overall satisfaction as well as more specific dimensions such as satisfaction with firms' benefits, work-life balance, senior management, and culture values. Among these ratings, our *Culture Homogeneity* measure only has significantly positive correlations with the ratings of *Culture Values* ($\rho = 0.03$, p < 0.05) and *Senior Management* ($\rho = 0.02$, p < 0.10). However, the

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¹² The scales of these correlations are relatively small, indicating that the number of segments is only one of the factors that relates to culture homogeneity and our measure is not simply another proxy for the number of business or geographic segments.

¹³ We controlled the number of reviews received by each firm-year, total asset, ROA, leverage, and year fixed effects, and have the standard errors clustered at the firm level.

scales of these correlations are rather small, indicating that while capturing the homogeneity in employees' perceived corporate culture, our measure does not simply represent more general employees' evaluations of or satisfaction with their firms.

Third, we examine how our *Culture Homogeneity* measure is correlated with the text-based measures of the five distinct cultural values (innovation, integrity, quality, respect, and teamwork) developed by Li et al. (2021) using earnings call transcripts. We find that our measure is only significantly correlated with *Respect* ($\rho = 0.09$, p < 0.05) and *Quality* ($\rho = -0.05$, p < 0.05), and the scale of these correlations are relatively small. Our measure is not significantly correlated with the other cultural values or the indicator for firms whose cultural values were in the top quartile across all Compustat firms in a year. This is not surprising given that our measure focuses on the extent to which corporate cultures are widely shared among employees in their practice, whereas Li et al. (2020) focuses on the extent to which certain pre-specified cultural values are emphasized by the upper-level management during earnings calls. We also find that our *Culture Homogeneity* measure is not significantly correlated with variables such as CEO duality ($\rho = -0.01$, p > 0.10) or E-index ($\rho = -0.01$, p > 0.10), suggesting it is not merely another proxy for the quality of corporate governance.

We check the robustness of our main findings by controlling the variables mentioned in this subsection in our main regression analyses. The results are discussed in the subsection of robustness tests.¹⁴

3.2.4 Long-term measures for stable corporate culture homogeneity versus heterogeneity

Besides measuring corporate culture homogeneity as a continuous variable at the firm-year level, we also develop longer-term measures. Specifically, we identify firms with stable culture

¹⁴ We choose not to include these variables as control variables in our main analyses, because it would lead to a significant reduction of our sample size without changing our conclusions or significantly improving our models.

homogeneity, by developing a firm-level dummy variable equal to one if a firm's *Culture Homogeneity* is greater than or equal to the sample median for at least 80 percent of its sample period, and zero otherwise (*Stable Homogeneity Indicator*). Similarly, we identify firms with stable culture heterogeneity as those for which a firm's *Culture Homogeneity* is below the sample median for at least 80 percent of the sample period.

To validate that these long-term measures reflect corporate culture in equilibrium for firms in our sample, we examine the stability of cultural topics over time for firms with stable culture homogeneity versus heterogeneity. We identify the most frequent topic for each firm-year in our sample period of 2010-19. We find that, on average, the most frequent topics remain stable in approximately 71 (34) percent of firm-years of firms that are classified as having stable culture homogeneity (heterogeneity).

Appendix 2 provides examples of firms with stable culture homogeneity versus heterogeneity. Firms with stable culture homogeneity include firms like Apple, Costco, Southwest Airlines, Starbucks, and Hilton, most of which are well known for their emphasis on maintaining strong cultural values and norms. To guide intuition for our culture homogeneity measure, we check the topics that are mentioned most frequently for these firms and the highly weighted keywords in these topics. As shown in Appendix 2, these topics are in general consistent with our understanding about the corporate culture of these firms. For example, Apple is well known for its culture of a strong focus on product innovation, team-based collaboration, and high expectations on employees. Similarly, Southwest Airlines is known for its strong values and priorities on its people. Examples of firms with stable culture heterogeneity include Xerox, Cardinal Health, and GE, many of which are subject to features that make corporate culture difficult to maintain (e.g., fast growth through acquisitions).

The theories we outline in Section 2 propose potential relationships between corporate culture and incentive contracting *in equilibrium*. While the vast majority of the variation in culture homogeneity in our sample is across rather than within firms, our sample does contain firms that vary over time in our measure of culture homogeneity. For this reason, throughout the paper, we examine relationships between corporate culture homogeneity and CEO incentive design features using both our full sample with the continuous measure of corporate culture homogeneity and a matched sample of firms with stable culture homogeneity versus heterogeneity. For the latter, we match firms with stable culture homogeneity versus heterogeneity using nearest-neighbor propensity score matching without replacement, a caliper of 0.01, and restricting the resulting sample to those observations on the common support. We include all of the firm and CEO control variables in our baseline regression models as determinants in the underlying propensity score model. This approach yields a "stable culture" sample consisting of 90 firms with stable culture homogeneity matched to 116 firms with stable culture heterogeneity and a total of 798 firm-year observations.

3.3 Dependent and Control Variables

3.3.1 CEO compensation and performance measures

Our H1 focuses primarily on firms' reliance on CEO equity pay. To test this hypothesis, we examine both the level and weight of CEO equity pay using data from ExecuComp. In particular, *CEO Equity Pay* is the sum of grant date fair value of stock and option awards. *CEO Total Pay* is the total annual pay comprised of salary, bonus, grant date fair value of stock and option awards, and deferred and other compensation. The weight of equity pay (*CEO Equity Pay %*) is calculated as the proportion of *CEO Equity Pay* to *CEO Total Pay*. We also analyze the other pay elements in CEO compensation contracts, including *CEO Bonus*, *Salary*, and *Total Pay*, as well as the

proportions of CEO variable pay, which consists of both CEO Equity Pay and CEO Bonus (CEO Variable Pay %), and fixed pay (CEO Salary %) to CEO Total Pay.

Our H2 focuses on non-financial measures used for CEO equity pay. We construct the number of non-financial performance measures (# *Non-financial Measures*) that are not accounting or market-based performance measures for CEO equity pay, based on the "Absolute Performance Goals", "Accelerated Performance Goals", and "Relative Performance Goals" files in Incentive Lab.

3.3.2 Control variables

Following prior research on the determinants of CEO compensation (e.g., Core, Holthausen, and Larcker 1999; Dai et al. 2020), we include several control variables in our regression models. In terms of firm characteristics, firm size indicates organizational complexity and is expected to have a positive relation with compensation level (Gabaix and Landier 2008). It is measured by the logarithm of total assets. Firm performance captures the potential alignment of managers' and shareholders' interests, which is proxied by two measures: stock return captures market-based performance; and return on assets (ROA) captures accounting-based performance. Standard agency models predict that pay level is an increasing function of firm performance. Firm growth opportunity is proxied by market-to-book (M/B) ratio. CEOs in firms with higher growth opportunities might be willing to give up some current compensation with expectation of higher future compensation (Focke, Maug, and Niessen-Ruenzi 2017). Firm risk is measured by stock volatility, which is the standard deviation of annualized monthly stock returns for a stock in a year. CEOs tend to demand a risk premium to work for firms with higher risk (Lambert, Larcker, and Verrecchia 1991). Leverage captures capital structure and is the ratio of total debt over total assets. We also control for cash-holding and capital expenditure, both deflated by total assets. In terms of CEO-specific characteristics, CEO age captures the CEO's skills and human capital, which is expected to be positively correlated with pay level (Conyon 2014). Lastly, we control for CEO ownership as Core et al. (1999) finds a substitution effect between CEO ownership and annual compensation. Besides firm and CEO characteristics, we also control for the number of employee reviews on Glassdoor per firm-year. Appendix 3 provides the definitions of the main variables used in our analyses.

4. Method

4.1 Empirical Model

Because corporate culture is widely viewed as a stable feature of organizations that affects a variety of organizational features and outcomes (O'Reilly and Chatman 1996; Sørensen 2002; Van den Steen 2010b), our empirical models reflect an assumption that boards are, in equilibrium, making CEO compensation decisions taking the existing culture into account. To investigate the equilibrium relationship between corporate culture homogeneity and CEO incentive design, we estimate baseline regression models of the following form using ordinary least squares (OLS):

CEO Pay Variable_{i,t} =
$$\beta_0 + \beta_1 * Culture Homogeneity_{i,t} + \gamma Controls_{i,t} + Year_t$$

+ $Industry_t + \varepsilon_{i,t}$ (1)

where *i* represents firm and *t* represents year. *CEO Pay Variable*_{i,t} stands for CEO compensation measures in terms of the weight, level, and number of non-financial performance measures for CEO equity pay, as well as other pay elements such as CEO bonus, salary, total pay, and the weights of variable and fixed pay; *Culture Homogeneity*_{i,t} measures the degree of corporate culture homogeneity; and $\gamma Controls_{i,t}$ is the vector of the firm- and CEO-level control variables following prior literature (e.g., Dai et al. 2020). We also control for industry (*Industry*_t) and year (*Year*_t) fixed effects to capture unobserved inter-industry differences in CEO labor market and

time varying unobserved macroeconomic shocks. Throughout the empirical analysis, t-statistics are computed based on robust standard errors clustered at the firm level. The coefficient of interest, β_1 , captures the equilibrium relationship between corporate culture homogeneity and various characteristics of CEO compensation, and is the primary basis for testing our hypotheses.

4.2 Descriptive Statistics

Table 1 presents the summary statistics for our test variables. On average, the level of CEO total pay and equity pay are approximately \$8.8 million and \$5.4 million, respectively. ¹⁵ This compares to \$5.8 million and \$3.3 million for all firms in the ExecuComp database during the same sample period, suggesting that our requirements for sufficient Glassdoor data to measure corporate culture yields a sample containing relatively larger firms with higher CEO pay levels. Not surprisingly, equity pay comprises a large portion of total pay at 54% on average. Further, firms in our sample use on average 0.27 non-financial performance measures for their CEO equity pay. Finally, there is significant variation in corporate culture homogeneity in our sample, with the interquartile range of our standardized measure ranging from -0.59 to 0.22.

[Insert Table 1 Here]

5. Results

5.1 H1: Corporate Culture Homogeneity and CEO Equity Pay

Table 2 presents the estimated results of the equilibrium associations between corporate culture homogeneity and CEO equity pay. We analyze both the continuous measure of corporate culture homogeneity (*Culture Homogeneity*) using the full sample and the indicator for culturally homogeneous firms (*Stable Homogeneity Indicator*) using the matched sample. The results presented in Columns (1) - (2) show that the coefficients on the weight of CEO equity pay (*CEO*)

¹⁵ The average level of total pay and equity pay in the matched sample are \$10.3 million and \$6.5 million, respectively.

Equity Pay %) are significantly negative in both the full and matched samples. The respective coefficients are -0.011 (t = -1.80) and -0.060 (t = -2.57). The results presented in Columns (3) – (4) suggest that culture homogeneity does play a significant role in explaining the levels of CEO equity pay ($Log [CEO \ Equity \ Pay]$). In the full sample, Culture Homogeneity is negatively and significantly associated with the level of CEO equity pay ($\beta = -0.137$, t = -2.17). Similarly, in the matched sample, the indicator for culturally homogeneous firms ($Stable \ Homogeneity \ Indicator$) is negatively and significantly associated with CEO equity pay levels ($\beta = -0.900$, t = -3.51).

[Insert Table 2 Here]

The magnitudes of the coefficients in the equity pay (Log [CEO Equity Pay]) regressions are sizable. For the full sample, each standard deviation increase in *Culture Homogeneity* is associated with a 13.7% reduction in CEO equity pay. While the magnitude of the corresponding coefficient in our matched sample suggests that culturally homogeneous firms tend to have 90% lower CEO equity pay relative to their culturally homogeneous counterparts, this coefficient needs to be interpreted with caution. Table 3 shows that this result arises from a substantially lower propensity of culturally homogeneous firms to use equity pay as a component of their annual CEO compensation contracts. The results in Table 3 show that culturally homogeneous firms are roughly 10.28% less likely to use equity pay than their culturally heterogeneous counterparts (Panel A), and that this result holds in a logit model of the presence/absence of equity pay even after controlling for any remaining differences in control variables in this matched sample (Panel B). To estimate the difference in equity pay between otherwise similar culturally homogeneous versus heterogeneous firms conditional on having equity pay, we also estimate a Tobit model of the Log (CEO Equity Pay+1), taking zero equity pay observations as truncated, and estimate the marginal effect of culture homogeneity at the mean level of equity pay in the stable culture sample.

Using this approach, we estimate that, conditional on having any equity pay, culturally homogeneous firms have 3% lower annual equity pay on average, all else equal. Thus, a large portion of the difference in equity pay between culturally homogeneous versus heterogeneous firms arises from the significantly lower propensity of the former to use equity pay as a regular component of the annual CEO compensation plan.¹⁶

[Insert Table 3 Here]

Overall, the results presented in Tables 2-3 provide support for H1, suggesting that firms with higher degrees of corporate culture homogeneity tend to rely less on equity pay in their CEO compensation contracts.

5.2 Corporate Culture Homogeneity and CEO Pay Structure

Besides equity pay, we also examine other pay elements in CEO compensation contracts to provide a more comprehensive picture of the implications of corporate culture homogeneity on CEO compensation design. The results are presented in Panel A of Table 4. In particular, regarding CEO bonus pay, while Column (2) suggests culturally homogeneous firms pay a significantly lower level of bonus ($\beta = -0.380$, t = -1.93) than their culturally heterogeneous counterparts, the results do not extend to the full sample as Column (1) suggests that corporate culture homogeneity (*Culture Homogeneity*) is not significantly associated with the levels of CEO bonus pay (*Log [CEO Bonus]*). Further, Column (3) and (4) suggest that there is an insignificant relation between corporate culture homogeneity and CEO salary (*Log [CEO Salary]*). Columns (5) – (6) show that corporate culture homogeneity has significantly negative associations with CEO total pay (*Log [CEO Total Pay]*) within both the full and matched samples. The respective coefficients are -0.045 (t = -2.46) and -0.181 (t = -2.59), suggesting that each standard deviation increase in *Culture*

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¹⁶ Results of the Tobit analysis of CEO Equity pay are available on request.

Homogeneity is associated with a 4.5% decrease in total CEO pay in the full sample, and the culturally homogeneous firms tend to have 18.1% lower total CEO pay relative to their culturally heterogeneous counterparts on average.

The results in Panel B of Table 4 further indicate a relative shift from variable to fixed pay for firms with homogeneous versus heterogeneous corporate cultures. Specifically, the results presented in Columns (1) - (2) suggest that *Culture Homogeneity* and *Stable Homogeneity Indicator* are negatively and significantly associated with the percentage of CEO variable pay (*CEO Variable Pay %*) in the full and matched samples, respectively. The respective coefficients are -0.009 (t = -2.25) and -0.059 (t = -4.46). Further, the results presented in Columns (3) - (4) indicate that our culture homogeneity variables (*Culture Homogeneity* and *Stable Homogeneity Indicator*) are positively and significantly associated with the percentage of CEO Salary (*CEO Salary %*). The coefficients for the full and matched samples are 0.011 (t = 3.16) and 0.055 (t = 4.41), respectively. Overall, these results suggest an approximate 1% shift from variable to fixed pay for each standard deviation in *Culture Homogeneity* in the full sample and an approximate 6% shift in the same direction for culturally homogeneous firms relative to their culturally heterogeneous counterparts.

[Insert Table 4 Here]

Overall, the results presented in Table 4 suggest that firms with higher degrees of corporate culture homogeneity do not substitute lower equity pay with higher levels of salaries or cash bonuses, leading to lower levels of CEO total pay and a lower (higher) proportion of variable (fixed) pay to total pay.

5.3 H2: Corporate Culture Homogeneity and Non-financial Performance Measures

We further examine whether corporate culture homogeneity is associated with differences in the use of non-financial performance measures for CEO equity pay (H2). Table 5 provides the results. For these analyses, we use the subsamples for which we have Incentive Lab's data, and we model the number of non-financial measures for equity pay using Poisson regression. As shown in Table 5, the coefficients on our corporate culture homogeneity measures are significantly positive for the number of non-financial measures used in equity awards for both the full (β = 0.394, t = 5.16), and matched (β = 1.401, t = 2.58) samples. The coefficient estimates suggest that each standard deviation increase in *Culture Homogeneity* is associated with a 48% increase ($e^{0.39}$ -1=0.48) in the number of non-financial measures used in equity plans in the full sample. Consistent with our H2, these results suggest that culturally homogeneous firms appear to condition their equity awards on more non-financial measures than their culturally heterogeneous counterparts.¹⁷

[Insert Table 5 Here]

5.4 Robustness Checks

Overall, the results in Tables 3 – 5 suggest that corporate culture homogeneity is negatively associated with firms' reliance on CEO equity pay; and when using equity pay, culturally homogeneous firms tend to condition it more on non-financial performance measures. We conduct a range of robustness checks to further test these associations. First, prior research suggests that stronger CEO power and weaker corporate governance are associated with higher levels of CEO compensation (e.g., Core et al. 1999; Abernethy, Kuang, and Qin 2015). We find that, after controlling for corporate governance variables such as CEO duality, board independence, and E-

¹⁷ As additional analyses, we examine the association between corporate culture homogeneity and the number of accounting measures and do not find significant results.

index, our conclusions remain unchanged. As discussed in the validity tests in Section 3, our culture homogeneity measure is not significantly correlated with such variables, either.

Second, we also tried controlling for the other variables that we used for validity tests in Section 3, such as the numbers of business and geographic segments and the Glassdoor ratings. Our conclusions remain unchanged after controlling for these variables. We also test the robustness of our main analyses to the inclusion of the text-based measures of corporate culture content based on five pre-specified culture values developed by Li et al. (2021). Not surprisingly, given the idiosyncratic nature of culture content across organizations, and the focus on homogeneity rather than content in the theoretical literature on the link between corporate culture and incentive contracting, we do not find that these culture content measures have any systematic relationship with our CEO incentive design variables nor do they alter our main findings on the relationship between these variables and our measure of culture homogeneity.

Third, prior research suggests that CEOs are willing to receive lower pay to work in firms with higher prestige (Focke et al. 2017). Following this intuition, we check the robustness of our main results by controlling for Fortune's "America's Most Admired Companies" (MAC) ranking (Focke et al. 2017). We also control for the number of press articles about firm *i* in year *t* and the overall sentiment of these articles, the data of which was obtained from RavenPack. Our conclusion about corporate culture homogeneity and CEO incentive design remains unchanged after controlling for these variables.

Next, we consider the potential for reverse causality by examining the compensation of a subsample of CEOs who joined their firms after the firm already established a stable degree of high or low culture homogeneity based on our measure. In other words, this is a subsample where the CEO selection and compensation decisions were likely made to reflect pre-existing corporate

culture homogeneity. Our results remain similar, suggesting that reverse causality does not pose a significant threat to our main findings and conclusions.

6. Additional Analyses

6.1 Corporate Culture Homogeneity and CEO Implicit Incentives

The results of our main analysis suggest that firms with higher degrees of corporate culture homogeneity tend to rely less on CEO incentive pay. We further explore whether these results also extend to CEO implicit incentives. Specifically, we use a logit model to estimate the sensitivity of forced CEO turnover to both accounting performance (ROA) and market performance (Stock Return). We include interaction terms between *Culture Homogeneity* and these performance measures to estimate how the sensitivity of CEO turnover to performance differs across firms with high versus low corporate culture homogeneity.

The results are presented in Panel A of Table 6. It shows that the coefficients on both ROA (β = -7.400, t = -4.49) and Stock Return (β = -1.208, t = -3.04) are significantly negative, and the coefficients on the interactions between these measures and *Culture Homogeneity* are significantly positive (β = 3.828, t = 3.62 for *Culture Homogeneity* × *ROA*; β = 0.383, t = 1.66 for *Culture Homogeneity* × *Stock Return*). Converting these coefficients to marginal effects shows that a one standard deviation increase in *Culture Homogeneity* decreases the sensitivity of forced CEO turnover to ROA (stock returns) by approximately 10% (1%) on an absolute basis and by approximately 50% (30%) relative to the average sensitivity of turnover to these performance measures in the full sample. Echoing the compensation results, firms with higher corporate culture homogeneity tend to have lower incentive strength, even in the context of implicit CEO incentives.

Another form of implicit incentives is the pay gap between the CEO and other executives. The gap between CEO pay and the pay of lower ranked executives creates tournament incentives for

the latter to compete to become the new CEO (Kini and Williams 2012). Panel B of Table 6 presents the results examining whether corporate culture homogeneity is associated with the gap between CEO pay and the pay of other executives. Consistent with our arguments and results so far, we find that the *Culture Homogeneity* measure is negatively related to the total pay gap between CEO and other executives ($\beta = -0.052$, t = -2.55). More specifically, this negative association appears to be driven by the gap in their long-term payments, including stocks and options ($\beta = -0.161$, t = -3.02). These results further demonstrate the negative association between corporate culture homogeneity and incentive strength faced by CEOs.

[Insert Table 6 Here]

6.2 Non-CEO Executive Compensation

Additionally, we test whether our findings about corporate culture homogeneity and CEO compensation generalize to other senior executives. In particular, we analyze how corporate culture homogeneity relates to equity pay, variable vs fixed pay, and total pay for CFOs as well as C-level executives other than the CEO and CFO. We find that the patterns in CEO compensation documented in Tables 2 – 4 extend to other top executives including the CFO and top executives other than the CEO or CFO. The results are similar in direction, magnitude, and significance when compared to our CEO compensation results, again supporting our expectations about the associations between corporate culture homogeneity and the level and composition of top executive pay. These results are presented in Table 7.

[Insert Table 7 Here]

6.3 Analyses on Internal Organization Efficiency and CEO Risk-Taking Incentives

Our results so far support our hypotheses by documenting robust associations between corporate culture homogeneity and the design of executive compensation contracts on several different dimensions. In this section, we perform a range of additional analyses to shed light on the plausibility of the theoretical mechanisms we argue underly these associations. The results of these analyses are provided in Appendix 4.

First, our hypotheses draw on economic theories positing that corporate culture homogeneity is positively associated with firms' internal organization efficiency via more delegation and faster decision making as well as better horizontal communication and coordination among employees. While these features of internal organization are not directly observable in a large cross-sectional sample of firms like the one used in our study, a direct implication is that firms with these features should more efficiently utilize labor resources in generating profitability, all else equal. To capture this idea, we examine the relationship between our culture homogeneity measure and net income per employee (*Log [Ni_Emp]*). We find a significantly positive association between corporate culture homogeneity and net income per employee for both our full and matched samples, supporting the plausibility of the link between corporate culture homogeneity and internal organization efficiency.

Second, we argue that the boards of culturally homogeneous firms may rely less on equity pay, in part, to prevent CEOs from taking too much risk. We follow prior literature and measure CEO risk-taking incentives using *CEO Vega*, which is computed as the sensitivity of CEO compensation to stock price volatility (Coles et al. 2006; Core and Guay 2002). We find that higher degrees of corporate culture homogeneity are indeed associated with significantly lower levels of *CEO Vega*. Similarly, in the matched sample, culturally homogeneous firms have significantly lower levels of *CEO Vega* than their culturally heterogeneous counterparts.

¹⁸ This sensitivity represents the dollar change (in millions) in the value of the CEO's stock and option portfolio for a 0.01 change in the annualized standard deviation of returns, derived from the Black-Scholes option valuation model. Following prior literature (e.g., Mayberry, Park and Xu 2021), our analysis uses the natural log of one plus *Vega*. We thank Lalitha Naveen for sharing the programming code for calculation. The code is available at: https://sites.temple.edu/lnaveen/files/2021/01/deltavega_2013.txt.

Finally, we argue that high degrees of culture homogeneity can act as a kind of benchmark for evaluating CEO actions in uncertain environments, resulting in increased ex post monitoring efficiency. Our results on the more intensive use of non-financial metrics in culturally homogeneous firms already provide some support for this underlying theoretical mechanism. Relative to accounting and market-based financial metrics, non-financial metrics can measure more specific dimensions of CEO effort and decision-making. By relying more on such metrics, these results show that boards of culturally homogeneous firms act as-if it is easier to measure more specific dimensions of CEO effort, which should also facilitate more efficient ex post monitoring. To further examine this idea, we also consider whether such firms are more selective in their choice of peer groups for compensation benchmarking purposes. We find that firms with high degrees of culture homogeneity are more selective in choosing such peer groups on two dimensions: (1) they select fewer peers and (2) they choose peers with higher culture homogeneity on average. By choosing smaller and more selective peer groups, the results suggest that boards of culturally homogeneous firms act as-if it is easier to benchmark and compare CEO performance, which should also facilitate more efficient ex post monitoring.

7. Conclusion

This study examines the association between corporate culture homogeneity and the design of CEO incentive contracts. Consistent with theories linking corporate culture homogeneity to internal organization efficiency, and by extension less complex task environments and reduced monitoring difficulties, we find that boards of culturally homogeneous firms use equity pay less intensively than those in culturally heterogeneous firms. This further leads to lower levels of CEO total pay and weaker incentives in the form of lower variable relative to fixed pay. We also find that when using equity pay, culturally homogeneous firms tend to condition it more on non-

financial performance measures. Additionally, we find that this overall negative association between corporate culture homogeneity and the use of equity incentives extends to CEO implicit incentives in the form of weaker forced turnover-to-performance sensitivity for CEOs in culturally homogeneous firms, as well as tournament incentives of executives in the form of the smaller pay gaps between CEO and other executives. Our findings about the associations between corporate culture homogeneity and the level and composition of CEO compensation also extend to CFOs and other senior executives.

Our study contributes to the broad and, to date, largely separate literatures on both corporate culture and CEO compensation. For the former, our study provides evidence that theories of corporate culture and formal incentives that have largely been developed with respect to the internal organization of firms also extend to external contracts between CEOs and shareholders. For the latter, our findings provide the first systematic evidence that corporate culture homogeneity is an important consideration in the design of CEO incentives, being associated with a range of compensation plan design features including the level and composition of pay, the role of equity, the use of performance measures, and implicit incentives.

In this study, we draw largely on economic theories of equilibrium relationships between corporate culture and formal organization. Consequently, our analyses focus primarily on cross-sectional variation in corporate culture homogeneity and various CEO compensation design features. In particular, our empirical models in this paper reflect the assumption that boards are, on average, making CEO compensation decisions conditional on the existing corporate culture. While we attempt to characterize stable culture firms as a way to better analyze the equilibrium relationship between culture homogeneity and CEO compensation, there remains an opportunity

for future research to examine the potentially dynamic relationship between corporate culture and top executive compensation design.

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Appendix 1. Examples of LDA Topics and Highly Weighted Words

Topic	Highly Weighted Key Words	Label*
	Examples of Most Frequently Mentioned Topics	
470	customer, employee, team, train, get, busi, senior, devic, everi, differ	workforce development
387	patienc, learn, lesson, opportun, corpor, experi, agenda, entrepreneuri, growth, attitud	learning
85	rich, spirit, decentr, benefit, women, opportun, learn, offic, convey, great	empowerment
12	benchmark, weigh, accordingli, pay, work, link, high, corpor, team, manag benchmarking	
	Examples of Randomly Selected Topics	
272	time, fast, go, pace, busy, hour, help, custom, lot, job	fast work pace
48	guidanc, provid, support, strong, leadership, team, resolu, commun, improv, growth	leadership support
372	product, differenti, new, momentum, growth, launch, trend, infight, chang, sale	product differentiation
195	multicultur, unit, new, fresh, good, learn, benefit, tie, graduat, intern	inclusive synergy

^{*}The topic labels were chosen by the authors only for demonstration purposes.

Appendix 2. Examples of Firms with Stable Culture Homogeneity

Company	Most Frequent Topic	Highly Weighted Key Words
Apple	181	new, product, hard, team, focus
Costco	368	lifework, balanc, easygo, fun, young
Hilton	121	learn, new, develop, opportun, compet
Southwest Airline	452	people, employe, valu, team, benefit
Starbucks	313	train, student, promot, overcom, posit

Appendix 3. Variable Definition

Variable	Definition
Corporate Culture Charact	eristics
Culture Homogeneity	The degree to which a firm's employees discuss similar <i>versus</i> different cultural topics, measured as the standardized interpersonal homogeneity of cultural topics in employee reviews received by firm <i>i</i> in year <i>t</i> . See Corritore et al. (2020) for more technical details.
Stable Homogeneity Indicator	A firm-level dummy variable equals to one if a firm's culture homogeneity is above or equal to sample median at least 80% of its sample period, and zero otherwise.
CEO Compensation	
CEO Total Pay (\$000)	Item TDC1 in ExecuComp that consists of salary, bonus, value of restricted stocks granted, value of options granted, long-term incentive payouts, and other types of compensation.
CEO Salary (\$000)	Base annual salary (item SALARY in ExecuComp)
CEO Bonus (\$000)	Sum of performance-based and cash-based pay (item BONUS and NONEQ_INCENT in ExecuComp).
CEO Equity Pay (\$000)	Sum of option fair value (item OPTION_AWARDS_FV in ExecuComp) and stock fair value (item STOCK_AWARDS_FV in ExecuComp).
CEO Variable Pay (\$000)	Sum of CEO bonus and CEO equity pay.
Salary %	CEO salary divided by CEO total pay.
Bonus %	CEO bonus divided by CEO total pay.
Equity Pay %	CEO equity pay divided by CEO total pay.
Variable Pay %	CEO variable pay divided by CEO total pay.
CEO Characteristics	
CEO Age	Age of the executive (item AGE in ExecuComp)
CEO Ownership (%)	Ratio of shares owned by the CEO to shares outstanding (item SHROWN_TOT_PCT in ExecuComp).
Firm Characteristics	
Log (Total Assets)	Natural logarithm of total assets (constructed from item AT in Compustat).
ROA	Net income before extraordinary items and discontinued operations divided by total assets (item IB/AT in Compustat).
Stock Return	Annualize monthly stock return for a stock (constructed from trt1m in CRSP/Compustat Merged Database).
Stock Volatility	Standard deviation of monthly returns for a stock in a year (constructed from trt1m in CRSP/Compustat Merged Database).
M/B Ratio	Market value of equity divided by book value of equity, where the market value is obtained as the fiscal year closing price multiplied by common shares outstanding (item PRCC_F ×CSHO/CEQ in Compustat).
Leverage	Sum of current liabilities and long-term debt divided by total assets (item (DLT + DLTT)/AT in Compustat).
Cash/Assets	Ratio of cash items to total assets (item CHE/AT in Compustat).
Capex/Assets	Ratio of capital expenditures to total asset (item CAPX/AT in Compustat).
# Reviews	Number of employee reviews received on Glassdoor.com per firm-year.

Appendix 3. Variable Definition (cont.)

Variable	Definition
Compensation Contract Chara	acteristics
# Non-financial Measures	Number of performance measures classified as other (constructed from METRICTYPE in Incentive Lab).
Forced CEO Turnover	A dummy variable equals to one if any firm-year experiences a forced turnover. Data obtained from Peters and Wagner (2014).
# Peers Used	Count of peer firms in the disclosed peer group for benchmark compensation comparisons (constructed from data in Incentive Lab).
Median Culture Homogeneity	Peer group median culture homogeneity (peer group constructed from data in Incentive Lab).

Appendix 4: Corporate Culture Homogeneity and Internal Organization Efficiency, CEO Risktaking Incentives, and Peer Benchmarking

Panel A: Internal Organization Efficien			
	$DV = Log (Ni_Emp)$		
	Full Sample	Matched Sample	
	(1)	(2)	
Culture Homogeneity	0.066*		
	(1.92)		
Stable Homogeneity Indicator		0.394**	
		(2.57)	
Log (# Reviews)	-0.303***	-0.346***	
	(-6.50)	(-4.20)	
Log (Total Assets)	0.406***	0.462***	
	(11.33)	(5.59)	
Leverage	-0.248	0.268	
·	(-1.29)	(0.56)	
Constant	0.961***	0.420	
	(4.18)	(0.64)	
Observations	4,977	722	
Adjusted R-squared	46.25%	47.86%	
Year and Industry FEs	Yes	Yes	

Panel B: CEO Risk-taking Incentives

	Log (CEO	O_Vega)
	Full Sample	Matched Sample
	(1)	(2)
Culture Homogeneity	-0.149**	
	(-2.14)	
Stable Homogeneity Indicator		-0.498**
		(-2.05)
Constant	0.305	0.018
	(0.43)	(0.01)
Observations	5,283	764
Adjusted R-squared	19.96%	32.31%
Control Variables	Included	Included
Year and Industry FEs	Yes	Yes

Panel C: Peer Benchmarking

	# Pee	ers Used	Median Peer Cu	lture Homogeneity
	Full Sample	Matched Sample	Full Sample	Matched Sample
	(1)	(2)	(3)	(4)
Culture Homogeneity	-2.086***		0.033	
	(-2.91)		(1.24)	
Stable Homogeneity Indicator		-3.401**		0.137***
		(-2.58)		(3.55)
Constant	22.294***	3.942	0.523***	0.075
	(3.45)	(0.47)	(3.07)	(0.28)
Observations	3812	586	3812	586
Adjusted R-squared	13.48%	14.47%	53.91%	53.11%
Control Variables	Included	Included	Included	Included
Year and Industry FEs	Yes	Yes	Yes	Yes

Note: T-statistics reported in parentheses are based on standard errors clustered by firm. *, **, and *** stand for significance at 10%, 5%, and 1% levels, respectively. Control variables used in Panels B and C are the same as in Tables 2-3. For variable definition, see Appendix 3.

Figure 1. Stylized Illustration of Corporate Culture Homogeneity

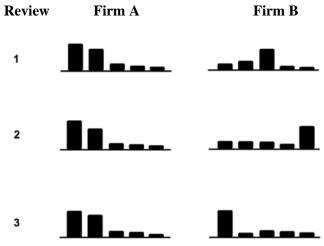


Table 1: Descriptive Statistics

Variable	Mean	Std Dev	25%	Median	75%
CEO pay					
Equity Pay %	0.54	0.26	0.42	0.61	0.71
Equity Pay (\$000)	5385.00	4839.44	1804.34	4312.56	7695.86
Bonus (\$000)	2019.40	2026.28	692.23	1479.40	2661.00
Salary (\$000)	1016.93	428.54	772.50	1000.00	1215.00
Total Pay (\$000)	8789.47	6380.26	4148.30	7382.07	11702.69
Variable Pay %	0.78	0.19	0.75	0.84	0.89
Salary %	0.18	0.16	0.09	0.13	0.21
# Non-financial Measures ^a	0.27	1.46	0.00	0.00	0.00
Corporate culture					
Culture Homogeneity	0.00	1.00	(0.59)	(0.28)	0.22
Control variables					
# Reviews	192.98	352.70	43.00	77.00	178.00
Log (Total Assets)	8.99	1.75	7.70	8.85	10.20
ROA	0.06	0.07	0.02	0.05	0.09
Stock Return	0.15	0.32	(0.04)	0.13	0.32
Stock Volatility	0.08	0.04	0.05	0.07	0.10
M/B Ratio	3.79	8.51	1.57	2.69	4.72
Leverage	0.27	0.20	0.11	0.24	0.38
Cash/Assets	0.14	0.14	0.03	0.09	0.19
Capex/Assets	0.04	0.04	0.01	0.03	0.05
CEO Age	56.82	6.62	53.00	57.00	61.00
CEO Ownership (%)	1.69	4.31	0.10	0.31	1.03

Note: This table shows summary statistics for the key variables for our sample of 1,005 US firms and 5,575 firm-years from 2010 to 2019. For variable definition, see Appendix 3.

^a The number non-financial performance measures for CEO equity pay are obtained from Incentive Lab, and this sample consists of 4,086 firm-years representing 692 unique firms.

Table 2: Corporate Culture Homogeneity and CEO Equity Pay

	CEO Eq	uity Pay %	Log (CEC	Equity Pay)
	Full Sample	Matched Sample	Full Sample	Matched Sample
	(1)	(2)	(3)	(4)
Culture Homogeneity	-0.011*		-0.137**	
	(-1.80)		(-2.17)	
Stable Homogeneity Indicator		-0.060**		-0.900***
		(-2.57)		(-3.51)
Log (# Reviews)	0.017**	0.011	0.084	-0.007
	(2.22)	(0.56)	(1.05)	(-0.03)
Log (Total Assets)	0.006	0.007	0.217***	0.292*
	(0.84)	(0.42)	(2.89)	(1.78)
ROA	-0.189*	-0.865***	-0.144	-7.193***
	(-1.87)	(-3.90)	(-0.13)	(-3.05)
Stock Return	-0.028**	-0.004	0.276**	0.611*
	(-2.25)	(-0.11)	(2.07)	(1.79)
Stock Volatility	-0.233	-0.495	-3.503**	-6.581**
•	(-1.58)	(-1.41)	(-2.33)	(-2.00)
M/B Ratio	0.001	-0.001	0.003	-0.021
	(1.17)	(-0.92)	(0.53)	(-1.40)
Leverage	0.047	0.066	0.468	0.389
	(1.59)	(0.90)	(1.63)	(0.52)
Cash/Assets	0.090*	0.199**	-0.400	0.609
	(1.72)	(2.19)	(-0.74)	(0.69)
Capex/Assets	0.030	1.858***	-1.562	13.739*
_	(0.14)	(3.15)	(-0.65)	(1.94)
CEO Age	-0.002*	-0.003	0.003	-0.023
	(-1.86)	(-1.37)	(0.24)	(-0.88)
CEO Ownership (%)	-0.014***	-0.013**	-0.189***	-0.148**
_	(-6.97)	(-2.08)	(-7.61)	(-2.40)
Constant	0.533***	0.636***	5.460***	7.056***
	(7.70)	(4.14)	(7.65)	(4.17)
Observations	5,575	798	5,575	798
Adjusted R-squared	12.91%	16.18%	15.54%	17.99%
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes

Note: T-statistics reported in parentheses are based on standard errors clustered by firm. *, **, and *** stand for significance at 10%, 5%, and 1% levels, respectively. For variable definition, see Appendix 3.

Table 3: Corporate Culture Homogeneity and Non-Zero Equity Pay

Panel A: Comparison of Likelihood of Equity Pay							
	Stable Heterogeneity	Stable Homogeneity	Diff (T-statistic)				
CEO Receives Equity Pay 93.73% 83.46% 10.28% (-4.62)							

Panel B: Logit Model for the Likelihood of Equity Pay

Panel B: Logit Model for the Likelihood of Equity Pay				
	CEO Receives Equity Pay			
Stable Homogeneity Indicator	-1.249***			
	(-3.84)			
Log (# Reviews)	-0.024			
	(-0.09)			
Log (Total Assets)	0.025			
	(0.14)			
ROA	-8.566***			
	(-2.73)			
Stock Return	0.782*			
	(1.89)			
Stock Volatility	-10.526**			
	(-2.37)			
M/B Ratio	-0.028*			
	(-1.96)			
Leverage	0.586			
	(0.68)			
Cash/Assets	-0.018			
	(-0.02)			
Capex/Assets	10.197*			
	(1.65)			
CEO Age	-0.045			
	(-1.46)			
CEO Ownership (%)	-0.115**			
	(-2.21)			
Constant	8.245***			
	(3.08)			
Observations	755			
Adjusted/Pseudo R-squared	23.67%			
Year Fixed Effects	Yes			
Industry Fixed Effects	Yes			
Note: T-statistics reported in parenth	eses are based on standard errors			

Note: T-statistics reported in parentheses are based on standard errors clustered by firm. *, **, and *** stand for significance at 10%, 5%, and 1% levels, respectively. For variable definition, see Appendix 3.

Table 4: Corporate Culture Homogeneity and CEO Pay Structure

Panel A: Other CEO Pa	y Elements						
	Log (CEO Bonus)		Log (CEC	Log (CEO Salary)		Log (CEO Total Pay)	
	Full Sample	Matched Sample	Full Sample	Matched Sample	Full Sample	Matched Sample	
	(1)	(2)	(3)	(4)	(5)	(6)	
Culture Homogeneity	-0.012		-0.017		-0.045**		
	(-0.20)		(-0.57)		(-2.46)		
Stable Homogeneity Indicator		-0.380*		-0.027		-0.181**	
		(-1.93)		(-0.47)		(-2.59)	
Constant	3.897***	3.539***	5.458***	5.166***	5.757***	6.055***	
	(6.37)	(2.84)	(14.82)	(12.10)	(27.47)	(14.64)	
Observations	5,575	798	5,575	798	5,575	798	
Adjusted R-squared	21.10%	18.94%	25.28%	31.98%	42.69%	42.16%	
Control Variables	Included	Included	Included	Included	Included	Included	
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	

Panel B: CEO Pay Structure

	CEO Variable Pay %		CEO S	Salary %
	Full Sample	Matched Sample	Full Sample	Matched Sample
	(1)	(2)	(3)	(4)
Culture Homogeneity	-0.009**		0.011***	
	(-2.25)		(3.16)	
Stable Homogeneity Indicator		-0.059***		0.055***
		(-4.46)		(4.41)
Constant	0.652***	0.649***	0.364***	0.380***
	(13.31)	(6.68)	(8.51)	(3.97)
Observations	5,575	798	5,575	798
Adjusted R-squared	19.92%	20.80%	18.72%	21.01%
Control Variables	Included	Included	Included	Included
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes

Note: T-statistics reported in parentheses are based on standard errors clustered by firm. *, **, and *** stand for significance at 10%, 5%, and 1% levels, respectively. Control variables are the same as in Table 2 – 3. For variable definition, see Appendix 3.

Table 5: Corporate Culture Homogeneity and Non-financial Measures for CEO Equity Pay

	# of Non-fine	# of Non-financial Measures		
	Full Sample	Matched Sample		
	(1)	(2)		
Culture Homogeneity	0.394***			
	(5.16)			
Stable Homogeneity Indicator		1.401***		
		(2.58)		
Constant	-5.837***	0.671		
	(-2.93)	(0.22)		
Observations	3,318	489		
Adjusted R-squared	23.26%	33.35%		
Control Variables	Included	Included		
Year Fixed Effects	Yes	Yes		
Industry Fixed Effects	Yes	Yes		

Note: T-statistics reported in parentheses are based on standard errors clustered by firm. *, **, and *** stand for significance at 10%, 5%, and 1% levels, respectively. Control variables are the same as Table 2-3. For variable definition, see Appendix 3.

Table 6: Corporate Culture Homogeneity and CEO Implicit Incentives

Panel A: CEO Turnover	Forced CEO	Forced CEO	Forced CEO
	Turnover	Turnover	Turnover
	(1)	(2)	(3)
Culture Homogeneity	0.013	-0.088	-0.003
	(0.12)	(-0.72)	(-0.03)
ROA	-7.400***	-8.085***	-7.358***
	(-4.94)	(-5.20)	(-4.95)
Culture Homogeneity \times ROA		3.828***	
·		(3.62)	
Stock Return	-1.208***	-1.190***	-1.297***
	(-3.04)	(-3.01)	(-3.29)
Culture Homogeneity × Stock Return			0.383*
			(1.66)
Constant	-2.973**	-2.703**	-2.932**
	(-2.28)	(-2.06)	(-2.25)
Observations	4,541	4,541	4,541
Adjusted R-squared	12.97%	13.92%	13.18%
Control Variables	Included	Included	Included
Year Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes

Panel B: Pay Gap between CEO and Other Executives

	Log (Total Pay Gap)	Log (Short-Term Pay Gap)	Log (Long-Term Pay Gap)
	(1)	(2)	(3)
Culture Homogeneity	-0.052**	-0.018	-0.161***
	(-2.55)	(-0.97)	(-3.02)
Constant	4.899***	3.901***	4.075***
	(21.86)	(18.51)	(7.07)
Observations	5,031	5,031	5,031
Adjusted R-squared	38.18%	39.23%	13.45%
Control Variables	Included	Included	Included
Year Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes

Note: $Pay\ Gap = CEO\ Pay\ - Median\ VP's\ Pay$; $Short\ - Term\ Pay$ includes salary, bonus, and other pay; $Long\ - Term\ Pay$ includes stocks and options. Results remain if consider other pay as long term instead. T-statistics reported in parentheses are based on standard errors clustered by firm. Control variables are the same as in Table 2-3. For variable definition, see Appendix 3.

Table 7: Corporate Culture Homogeneity and Other Executives' Compensation

Panel A: CFO Pay					
	Log (CFO Total Pay)	CFO Salary %	CFO Variable %	Log (CFO Equity Pay)	CFO Receives Equity Pay
	(1)	(2)	(3)	(4)	(5)
Stable Homogeneity Indicator	-0.166**	0.053***	-0.054***	-0.389	-0.609*
	(-2.09)	(3.22)	(-3.02)	(-1.60)	(-1.74)
Constant	4.070***	0.660***	0.265*	1.306	1.503
	(8.63)	(4.65)	(1.86)	(0.91)	(0.68)
Observations	721	721	721	721	619
Adjusted R-squared	46.49%	26.63%	24.00%	14.98%	18.05%
Control Variables	Included	Included	Included	Included	Included
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
Panel B: Other Execut	ive Pay				
	Log (Other Total Pay)	Other Salary %	Other Variable %	Log (Other Equity Pay)	Other Executives Receive Equity Pay
	(4)	(2)	(2)		(5)

	Log (Other Total Pay)	Other Salary %	Other Variable %	Log (Other Equity Pay)	Other Executives Receive Equity Pay
	(1)	(2)	(3)	(4)	(5)
Stable Homogeneity Indicator	-0.131**	0.040***	-0.037***	-0.457**	-0.630*
	(-2.27)	(4.19)	(-3.33)	(-2.34)	(-1.86)
Constant	5.230***	0.360***	0.606***	5.261***	3.538
	(11.17)	(3.21)	(5.20)	(3.64)	(1.25)
Observations	798	798	798	798	703
Adjusted R-squared	58.52%	43.27%	39.79%	18.76%	16.73%
Control Variables	Included	Included	Included	Included	Included
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes

Note: T-statistics reported in parentheses are based on standard errors clustered by firm. Control variables are the same as in Table 2-3. For variable definition, see Appendix 3.