



## Corporate culture and financial statement comparability

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### ABSTRACT

In this paper, I empirically examine the influence of corporate culture on the comparability of financial statements. I predict that firms with strong corporate cultures have less-opportunistic managers, who make homogenous decisions when faced with similar economic events, resulting in greater accounting comparability. For a sample of U.S. companies, I find empirical evidence consistent with this prediction: firms with strong corporate cultures have greater peer- and industry-level comparability. These results are robust to using an entropy-balanced sample, correcting for sample selection bias using Heckman's two-step procedure, and employing different measures of corporate culture strength. Further analysis reveals that sudden CEO turnovers that move firms towards (away from) a stronger corporate culture positively (negatively) influence post-turnover accounting comparability. My results provide new insights on the role of corporate culture for financial reporting.

### 1. Introduction

In this study, I empirically examine how the strength of corporate culture relates to financial statement comparability. Corporate culture is an informal institution that comprises firmly held values and norms within an organization (O'Reilly & Chatman, 1996). Senior executives increasingly value and strive for building a strong corporate culture, which they deem value-enhancing (Graham, Grennan, Harvey, & Rajgopal, 2022). Empirical studies also show that firms with strong corporate cultures have better firm performance and efficiency (Edmans, 2012; Guiso, Sapienza, & Zingales, 2015; Li, 2022; Xu, Fernando, & Tam, 2019). This culture-performance link is particularly more apparent during economic downturns (Li, Liu, Mai, & Zhang, 2021; Lins, Servaes, & Tamayo, 2017).

Guiso et al. (2015) argue that corporate culture instills social norms within an organization, which can help mitigate agency problems such as moral hazard. Such reductions in agency problems result in better firm performance and value. Other researchers argue that having a particular type of corporate culture can affect how firms make certain decisions. For example, firms with greater preferences towards risk and

uncertainty (i.e., corporate risk culture) have greater research and development intensity (Pan, Siegel, & Wang, 2017). Similarly, firms with control-oriented (creation-oriented) cultures are more (less) likely to enact a CEO change after poor performance (Fiordelisi & Ricci, 2014). More recently, Guggenmos and Van der Stede (2020) show that firms with more creative and innovative cultures engage in higher levels of real earnings management while Bhandari, Mammadov, Thevenot, and Vakilzadeh (2022) find that firms with more collaborative (competitive) cultures have lower (higher) financial reporting quality.

Drawing upon upper echelons theory, a nascent stream of literature in accounting also explores the implications of corporate culture for financial reporting.<sup>1</sup> These studies examine the influence of top executive's behavior on corporate misconduct and suggest that firms with more corrupt and unethical executives are more likely to engage in corporate misconduct and display poor accounting quality (Biggerstaff, Cicero, & Puckett, 2015; Davidson, Dey, & Smith, 2015; Liu, 2016). However, these studies are either contingent upon the behavior of the top executives outside the corporate world or are limited to assessing the ethical dimension of accounting (i.e., corporate misconducts and earnings management). There is limited evidence on whether the strength of

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<sup>1</sup> Upper echelons theory argues that the behavior of the top executives primarily determines corporate culture (see, Chatterjee & Hambrick, 2007; Hambrick, 2007).

corporate culture has any implications for financial reporting. The goal of this study is to bridge this gap by examining how the strength of corporate culture affects the comparability of financial statements.<sup>2</sup> In the context of this study, strong corporate culture represents values and norms that are widely-held and endorsed by the members of an organization facilitating social control (Sørensen, 2002). Specifically, firms that endorse integrity, innovation, teamwork, respect, and quality as norms and values have a strong corporate culture.

Francis, Pinnuck, and Watanabe (2014) contend that firm-pairs facing similar macroeconomic risks are more likely to have similar accruals and earnings structures. Nonetheless, the tendency of managers to interpret and implement accounting standards based on their own discretion introduces frictions that potentially reduce interfirm comparability. Managers in firms exhibiting a strong culture are reluctant to act in opportunistic ways that can potentially lead to a breach of organizational trust or collapse of corporate norms (Guiso et al., 2015). In the absence of such agency conflicts, managers are likely to make homogeneous financial reporting decisions under a given set of economic events, resulting in greater accounting comparability.

Furthermore, firms with weak corporate cultures are more likely to be opaque with higher information acquisition costs. In line with this view, weaknesses in corporate culture are associated with less accurate and less informative analyst forecasts and reports (Pacelli, 2019) and more cases of accounting fraud (Biggerstaff et al., 2015; Davidson et al., 2015; Liu, 2016). On the contrary, firms exhibiting a strong culture are less likely to manage their earnings using discretionary accruals (Li, Mai, Shen, & Yan, 2021). Such earnings management through discretionary accruals is negatively associated with the comparability of financial statements (Sohn, 2016). Consistent with these arguments, I hypothesize that firms with a strong corporate culture display greater comparability.

To capture the strength of corporate culture, I use the recently developed measure of Li, Mai, et al. (2021).<sup>3</sup> There are several advantages to using this measure. It is based on the latest machine learning techniques that score five corporate cultural values (*innovation, integrity, quality, respect, and teamwork*) by using earnings call transcripts. But unlike measures of national or community-level culture, this measure is path-dependent and has meaningful variation over time. Furthermore, since the measure is developed using the question-and-answer (QA) section of a call, it is free from excessive managerial self-promotion that appears in scripted management presentations. I follow Li, Mai, et al. (2021) and define strong corporate culture as an indicator variable that takes the value of one if the sum of a firm's five cultural values is in the top quartile across all Compustat firms in a year, and zero otherwise. I define firm-year comparability based on the measures specified in De Franco, Kothari, and Verdi (2011).

Using these metrics, I show that firms with a strong corporate culture have greater financial statement comparability. These results are robust to using an entropy-balanced sample that controls for observable differences between strong and weak culture firms. To mitigate endogeneity concerns, I employ two specifications. First, I use Heckman's (1979) two-step model that controls for sample selection bias and find that my results persist even after controlling for potential selection bias. Second, I use a sample of firms that suffer a sudden CEO change, and find that sudden CEO changes that move the firm towards (away from) a strong corporate culture exhibit greater (lower) comparability of

financial statements. My findings are also robust to using an alternative measure of corporate culture. Overall, these results support the notion that strengthening corporate culture results in lower information acquisition costs that translates to greater comparability of financial statements.

I respond to calls for a deeper analysis of the influence of corporate culture on financial reporting and other organizational outcomes (Dichev, Graham, Harvey, & Rajgopal, 2012; Graham et al., 2022) and contribute to the literature by showing implications of corporate culture for financial statement comparability. Prior evidence relates corporate culture to firm performance (Edmans, 2012; Guiso et al., 2015; Nguyen, Hagendorff, & Eshraghi, 2018), investment policies (Pan et al., 2017), CEO turnover (Fiordelisi & Ricci, 2014), analyst behavior (Pacelli, 2019), bank risk-taking (Nguyen, Nguyen, & Sila, 2019), real earnings management (Guggenmos & Van der Stede, 2020), and financial reporting quality (Bhandari et al., 2022). Similarly, in a recent study, Li, Mai, et al. (2021) show that corporate culture is associated with an array of business outcomes including corporate innovation, operational efficiency, risk-taking, accounting quality, and mergers and acquisitions. I extend this literature and show that firms with a strong corporate culture have greater financial statement comparability.

I also contribute to the literature on determinants of comparability. Prior evidence in this line of research has focused on the role of accounting standards such as the adoption of IFRS. For instance, Barth, Landsman, Lang, and Williams (2012) show that non-US firms applying IFRS have more comparable accounting systems with US firms applying GAAP. Similarly, Yip and Young (2012) study the effect of IFRS adoption on comparability in the European Union and find that post-IFRS adoption, firms exhibited improved information comparability. Brochet, Jagolinzer, and Riedl (2013) reveal that firms adopting IFRS in the U.K. have improved comparability of financial statements that limits exploitation of private information by insiders. Other studies examine the effect of auditor style on comparability and demonstrate that comparability is higher when firm-pairs are audited by the same Big 4 auditors (Francis et al., 2014), common signing auditor (Chen, Chen, Chin, & Lobo, 2020; Shi, Wen, Zhou, & Zhu, 2021), or local audit firms from the same global network (Ege, Kim, & Wang, 2020). Biswas, Habib, and Ranasinghe (2022) find that inter-firm comparability increases as firms become more mature in their life cycle. In this study, I extend this literature and show that firms with strong corporate cultures have higher comparability.

The remainder of the paper proceeds as follows. Section 2 discusses related literature and develops the study's main hypothesis. Section 3 presents the research design and Section 4 summarizes sample selection and data. Empirical results are reported in Sections 5 and 6. Section 7 concludes the study.

## 2. Literature review and hypothesis development

This paper relates to two lines of research: research on comparability, and research on corporate culture. Comparability, as a basic property of accounting, enhances the usefulness of financial information (Financial Accounting Standard Board (FASB), 2010) and primarily influences firms' financial reporting environment by reducing information acquisition costs and improving the quality and quantity of available information (De Franco et al., 2011; Kim, Kraft, & Ryan, 2013). Prior research in accounting demonstrates that comparability reduces expected crash risk (Kim, Li, Lu, & Yu, 2016), improves the efficiency of acquisition decisions (Chen, Collins, Kravet, & Mergenthaler, 2018), decreases loan spread and the likelihood of pledging collateral in the syndicated loan market (Fang, Li, Xin, & Zhang, 2016), lowers cost of debt (Kim et al., 2013) and cost of equity (Imhof, Seavey, & Smith, 2017), positively affects the market value of cash holdings (Ahn, Choi, & Yun, 2020) and increases informativeness of stock prices (Choi, Choi, Myers, & Ziebart, 2019).

With the "cultural revolution" in finance (see, Zingales, 2015),

<sup>2</sup> The Financial Accounting Standards Board (FASB) defines comparability as, "the quality of information that enables users to identify similarities and differences between two sets of economic phenomena." (FASB 1980, p. 40). More recently, De Franco et al. (2011) present a more conceptual definition of comparability. They state, "Two firms have comparable accounting systems if, for a given set of economic events, they produce similar financial statements." (De Franco et al., 2011, p. 899).

<sup>3</sup> I thank Professor Kai Li for making the corporate culture data available for researchers.

accounting researchers are also increasingly interested in studying the effects of culture on accounting processes, such as financial reporting. Prior literature in accounting primarily examines the influence of cross-country or within-country cultural differences on accounting processes. A similar and relatively nascent stream of literature also examines the influence of within-country differences in cultural values and societal norms (such as social capital or religiosity) and their impact on accounting quality (Jha, 2019; McGuire, Omer, & Sharp, 2012) and accounting conservatism (Afzali, Colak, Hasan, & Martikainen, 2020). While cross-cultural studies in accounting are widespread, research on variation in corporate culture and its effects on accounting practices is sporadic. Corporate culture, unlike deeply held national cultural values and norms, is path-dependent and subject to change because of major corporate events (Graham et al., 2022; Guiso et al., 2015; Li, Mai, et al., 2021). Moreover, corporate and national cultures can be deemed as separate constructs with dissimilar effects (Weber, Shenkar, & Raveh, 1996). It is therefore imperative to study how and when corporate culture influences accounting choices.

Several recent studies examine the influence of corporate culture on managerial financial reporting choices. Three papers, in particular, are relevant to the scope of this study. First, in an experimental setting, Guggenmos and Van der Stede (2020) show that cultural dimensions of creativity and innovation tend to have unintended negative consequences for financial reporting. They draw upon previous work in psychology that reveals how creativity can result in dishonest reporting behavior and find that managers in firms with more creative corporate cultures engage in greater real earnings management. This result is largely construed on the notion that creativity and innovation instill greater risk acceptance among managers, resulting in more risky financial decisions in the form of real earnings management. Second, Bhandari et al. (2022) study four dimensions of corporate culture based on the Competing Values Framework and find that collaboration- (competition-) oriented cultures engage in greater (lower) accrual-based earnings management and financial restatements. These results are based on the intuition that collaborative cultures may have ineffective formal control systems that incentivize corporate misreporting. Contrary to this, competition can reduce such incentives resulting in a lower probability of financial misconduct. Third, Chen, Francis, Hasan, and Wu (2022) find that firms with collaborative corporate cultures pay lower audit fees. The authors argue that since collaborative cultures encourage cooperation among employees, it leads to greater reporting of errors and lower litigation risk.

Building on this framework that corporate culture can influence financial reporting patterns, I argue that having a strong corporate culture can positively influence financial statement comparability through two distinct channels. First, strong corporate culture introduces clarity about corporate goals and practices (Sørensen, 2002). When firms face unexpected events, such clarity about goals and practices can reduce uncertainties. This aspect of a strong corporate culture is particularly relevant for financial statements since accountants and managers frequently face unexpected events and have to make choices that affect accounting numbers.<sup>4</sup> When firms have a strong corporate culture, it enables them to make those decisions with greater uniformity under the same set of unexpected economic events. This can enhance inter-firm comparability of financial statements.

Second, strong corporate culture can enhance comparability by reducing incentives to engage in dishonest financial reporting. In strong culture firms, corporate executives are unlikely to act in opportunistic ways that entail a greater risk of breaching organizational trust or collapse of corporate norms (Guiso et al., 2015). In firms where such

agency conflicts are absent, corporate executives make homogenous financial reporting decisions when faced with similar economic events. Such homogenous decision-making under similar economic events can result in greater financial statement comparability (Francis et al., 2014).

Prior research provides ample evidence of how weak (strong) firm culture can result in more (less) opportunistic managerial behavior. For instance, using different empirical proxies for weak corporate culture, Biggerstaff et al. (2015), Davidson et al. (2015), and Liu (2016), document a significantly higher probability of such firms engaging in financial reporting misconduct. In contrast, firms exhibiting strong corporate culture have a lower tendency to engage in accrual-based earnings management activities (Li, Mai, et al., 2021). This lower tendency to engage in opportunistic behavior is negatively associated with the comparability of financial statements (Sohn, 2016). Consistent with these arguments, I state my first hypothesis as follows:

**H1.** *Firms with strong corporate cultures have greater financial statement comparability than firms with weak corporate cultures.*

### 3. Research design

#### 3.1. Corporate culture measure

Measurement is a key challenge in conducting research on corporate culture and its effects on business outcomes. The literature has indeed attempted to measure corporate culture but with limited success. For instance, Liu (2016) uses the country of ancestry of key insiders as a measure of the cultural background of firms to study corrupt cultures. Davidson et al. (2015) use an insider's "off-the-job" behavior to indicate the corporate culture. However, given that corporate culture is a multifaceted construct and path-dependent, these measures are limited in scope. While some measures of corporate culture (e.g., Fiordelisi & Ricci, 2014) constructed using the Competing Values Framework are useful, they capture a specific aspect of corporate culture instead of its strength.

Recently, Li, Mai, et al. (2021) try to address measurement issues by using the latest approaches in machine learning. Their method uses earnings call transcripts for a large sample of firms in the US from 2001 to 2018. There are several advantages to using this measure. First, unlike measures of corporate culture that rely on a user-specified (subjective) bag-of-words approach and 10-K annual reports, the measure in Li, Mai, et al. (2021) is based on the word embedding model and >200,000 earnings call transcripts.<sup>5</sup> The word embedding model automatically identifies words and phrases that appear in close connection with cultural values based on their respective contexts in the earnings call transcripts. Second, the measure is available for a large set of firms over a long period with meaningful cross-sectional variation in the time series. Since corporate culture, unlike national culture is path-dependent, having variation in a time series is advantageous as it captures changes in culture due to major corporate events. Third, the measure scores five distinct cultural values of *innovation*, *integrity*, *quality*, *respect*, and *teamwork*. This disintegration into five components not only allows for a more detailed study of the effects of cultural values on business outcomes but also allows for measuring corporate culture strength. Finally, the measure is validated against well-established proxies for corporate cultural values further enhancing its quality and scope.

After creating a dictionary of words for each of the five cultural dimensions using machine learning models, Li, Mai, et al. (2021) analyze

<sup>4</sup> For instance, under generally accepted accounting principles (GAAP), firms in the U.S. can choose between different inventory valuation, depreciation, and goodwill impairment models, among other choices. Such decisions ultimately influence the comparability of financial statements across firms.

<sup>5</sup> A bag-of-words approach is a form of natural language processing technique that counts the number of times a word and its synonyms are mentioned in a document. Depending on the classification of the word, the count measure is then used to measure sentiment or corporate culture. For instance, an annual report containing larger proportions of positive words might demonstrate a more optimistic tone. See Loughran and McDonald (2016) for a survey of this literature.

earnings call transcripts and calculate the weighted number of times each word associated with the cultural dimension appears in the transcript. For instance, to calculate the *integrity* dimension, the authors count the weighted frequency of words such as *accountability*, *ethic*, *integrity*, *responsibility*, and *transparency*. Similarly, to calculate the *teamwork* dimension, the authors count the weighted frequency of words such as *collaborate*, *cooperation*, *partnership*, and *teamwork*. Finally, they divide these weighted frequencies by the total number of words in the document.

Theoretically, each of these five cultural dimensions measure a unique strength of overall corporate culture. Firms with a strong culture in *integrity* focus on creating value through accountability, transparency, and ethical and responsible behavior. Similarly, firms with a strong culture in *innovation* aim to create value through innovative activities while firms with a strong culture in *quality* strive to improve internal efficiency and quality. Firms that value *teamwork* create value by promoting collaboration and cooperation within the organization while firms with a strong culture in *respect* create value by attracting, empowering, and retaining talented employees. The overall strength of corporate culture is determined by the degree of a firm's emphasis in valuing all five of these corporate culture dimensions.

To calculate the strength of corporate culture, I closely follow Li, Mai, et al. (2021) and first calculate the sum of all five corporate culture values for each firm. I then classify all Compustat firms with corporate culture data into quartiles based on the value of the sum of all five corporate cultural values. Finally, I define strong corporate culture as an indicator variable that takes the value of one if the sum is in the top quartile across all Compustat firms in a year, and zero otherwise. I use this as my main measure of corporate culture strength and expect it to be positively associated with financial statement comparability.

### 3.2. Financial statement comparability measures

De Franco et al. (2011) argue that the accounting system is based on mapping economic events to financial data. When such mappings are similar, firms' accounting systems are more comparable, that is, for a given set of economic transactions, comparable firms produce similar accounting data. Following this definition, they estimate each firm's accounting system by applying the following equation:

$$Earnings_{it} = \alpha_i + \beta_i Return_{it} + \varepsilon_{it} \quad (1)$$

*Earnings* is the ratio of quarterly net income before extraordinary items to market value of equity at the beginning of the quarter, and *Return* is the stock price return during the quarter. Assuming that firms *i* and *j* experience the same economic events (i.e., they have the same *Return*), the predicted earnings for firm *i* and firm *j* is given using the following two equations.

$$E(Earnings)_{iii} = \hat{\alpha}_i + \hat{\beta}_i Return_{it} \quad (2)$$

$$E(Earnings)_{ijt} = \hat{\alpha}_j + \hat{\beta}_j Return_{it} \quad (3)$$

$E(Earnings)_{iii}$  is the predicted earnings of firm *i* given its system and its return in period *t*; and  $E(Earnings)_{ijt}$  is the predicted earnings of firm *j* given its system and firm *i*'s return in period *t*. By using firm *i*'s return in both predictions, economic events are explicitly held constant. De Franco et al. (2011) then estimate eq. (4) for each firm-pair within the same two-digit standard industry classification (SIC) grouping. Greater values indicate greater comparability in firm-pairs.

$$CompAcct_{ijt} = -\frac{1}{16} \times \sum_{t=15}^t |E(Earnings)_{iii} - E(Earnings)_{ijt}| \quad (4)$$

To calculate firm-year measures of comparability, I follow De Franco et al. (2011) and after estimating  $CompAcct_{ijt}$  using Eq. (4), I rank all the *J* values of  $CompAcct_{ijt}$  for each firm *i* from highest to lowest. I then calculate three distinct firm-year measures of comparability.

$CompAcct4_{it}$  ( $CompAcct10_{it}$ ) is the average  $CompAcct_{ijt}$  of the four (ten) firms *j* with the highest comparability rank to firm *i* during period *t*. Similarly,  $CompAcctInd_{it}$  is the median  $CompAcct_{ijt}$  for all firms *j* in the same industry as firm *i* during period *t*. Firms with high firm-year comparability have accounting systems that are more similar to those in the peer group or in the industry.

### 3.3. Empirical model

I argue that the strength of corporate culture is positively associated with financial statement comparability. Citing Lang, Maffett, & Owens, 2010, Francis et al. (2014) state that there is no theoretical or empirical guidance in choosing the set of control variables to include in a model explaining accounting comparability. Nonetheless, they control for firm size, market-to-book ratio, and other variables that potentially correlate with many unobservable firm-specific characteristics. I follow their approach and control for firm size, market-to-book ratio, leverage, cash flow from operations, an indicator variable to denote Big 4 audit firms, standard deviation of sales and cash flow from operations, percentage of loss-incurring quarters, and standard deviation of sales growth. To test my first hypothesis (H1), I estimate the regression model in Eq. (5).

$$\begin{aligned} CompAcct_{it} = & \beta_0 + \beta_1 StrongCulture_{it} + \beta_2 Size_{it} + \beta_3 MTB_{it} + \beta_4 Leverage_{it} \\ & + \beta_5 Cashflow_{it} + \beta_6 Big4_{it} + \beta_7 SDSale_{it} + \beta_8 SDCashflow_{it} \\ & + \beta_9 LossProb_{it} + \beta_{10} SDSalesGrowth_{it} + Industry Fixed Effects \\ & + Year Fixed Effects + \varepsilon_{it} \end{aligned} \quad (5)$$

where *CompAcct* is one of the three measures of comparability (*CompAcct4*, *CompAcct10*, or *CompAcctInd*). *StrongCulture* is an indicator variable that equals 1 if the sum of all five cultural dimensions for firm *i* is in the top quartile across all Compustat firms in year *t*, and 0 otherwise. *Size* is the natural logarithm of market value of equity, *MTB* is the market-to-book ratio, *Leverage* is total debt divided by total assets, *Cashflow* is the ratio of cash flow from operations to beginning of the year total assets, *Big4* equals 1 if the firm is audited by a Big 4 audit firm, and 0 otherwise, *SDSale* is the standard deviation of quarterly sales over the previous 16 quarters, *SDCashflow* is the standard deviation of quarterly cash flows from operations over the previous 16 quarters, *LossProb* is the proportion of loss quarters over the previous 16 quarters, and *SDSalesGrowth* is the standard deviation of sales growth over the previous 16 quarters.<sup>6</sup> I include industry- and year-fixed effects to control for industry and time-invariant unobservable factors that may influence the dependent variables in Eq. (5). Consistent with Petersen (2009), I cluster standard errors at the firm level and report heteroscedasticity-robust standard errors. All continuous variables are winsorized at the 1st and 99th percentiles.

## 4. Sample selection and summary statistics

To construct my test sample, I begin with Compustat firms incorporated in the U.S. from 2001 to 2018. I use this period because the corporate culture measure in Li, Mai, et al. (2021) becomes available in 2001. To this end, my sample comprises 57,251 firm-year observations. After excluding firms with missing data to calculate the three measures of comparability based on De Franco et al. (2011) and control variables, the final sample reduces to 30,875 firm-year observations. Table 1, Panel A demonstrates the sample selection criteria for the final sample. Panel B shows the sample distribution by fiscal year. In every fiscal year, strong culture firms represent approximately one-fourth of the sample.

Table 2, Panel A provides descriptive statistics for all variables in the sample. Since comparability is calculated as the difference between

<sup>6</sup> To calculate *SDSale*, *SDCashflow*, *LossProb*, and *SDSalesGrowth*, I require at least eight quarters of non-missing information.

**Table 1**  
Sample.

Panel A: Sample Selection Process							
Step 1	Total number of firm-year observations with available corporate culture data and Compustat match						57,251
Step 2	Less: Missing data to calculate comparability measures						24,927
Step 3	Less: Missing Compustat annual data to calculate control variables						393
Step 4	Less: Missing Compustat quarterly data to calculate control variables						1056
	Final sample size						30,875
Panel B: Sample Distribution by Fiscal Year							
Year	<i>StrongCulture</i> = 0			<i>StrongCulture</i> = 1			Total
2001	42	17	59	2010	1510	453	1963
2002	917	275	1192	2011	1556	462	2018
2003	1172	402	1574	2012	1467	456	1923
2004	1239	419	1658	2013	1391	419	1810
2005	1331	436	1767	2014	1439	430	1869
2006	1353	418	1771	2015	1452	414	1866
2007	1383	435	1818	2016	1389	431	1820
2008	1447	430	1877	2017	1559	454	2013
2009	1498	452	1950	2018	1469	458	1927
				Total	23,614	7261	30,875

Panel A describes the sample selection process. Panel B presents the sample distribution by fiscal year. *StrongCulture* is an indicator variable that equals 1 if the sum of all five cultural dimensions based on Li, Mai, et al. (2021) for firm *i* is in the top quartile across all Compustat firms in year *t*, and 0 otherwise.

**Table 2**  
Descriptive statistics and univariate differences.

Panel A: Descriptive Statistics						
Variables	Observations	Mean	SD	Q1	Median	Q3
<i>CompAcct4</i>	30,875	-0.783	2.276	-0.580	-0.220	-0.090
<i>CompAcct10</i>	30,875	-1.105	2.797	-0.920	-0.350	-0.150
<i>CompAcctInd</i>	30,875	-2.995	4.138	-3.390	-1.750	-1.100
<i>StrongCulture</i>	30,875	0.235	0.424	0.000	0.000	0.000
<i>SumCulture</i>	30,875	5.555	2.660	3.632	5.035	6.935
<i>StateDensity</i>	30,812	0.270	0.106	0.193	0.276	0.344
<i>Size</i>	30,875	7.090	1.896	5.809	7.079	8.356
<i>MTB</i>	30,875	2.907	5.753	1.270	2.035	3.439
<i>Leverage</i>	30,875	0.244	0.244	0.043	0.202	0.373
<i>Cashflow</i>	30,875	0.065	0.179	0.027	0.079	0.135
<i>Big4</i>	30,875	0.839	0.367	1.000	1.000	1.000
<i>SDSale</i>	30,875	150.402	358.058	8.615	28.527	106.509
<i>SDCashflow</i>	30,875	100.047	230.193	6.924	20.899	71.101
<i>LossProb</i>	30,875	0.265	0.316	0.000	0.125	0.438
<i>SDSalesGrowth</i>	30,875	0.352	1.330	0.074	0.124	0.219
Panel B: Univariate Differences						
Variables	<i>StrongCulture</i> = 1	<i>StrongCulture</i> = 0	Difference	<i>t</i> -statistic		
<i>CompAcct4</i>	-0.705	-0.807	0.101***	3.323		
<i>CompAcct10</i>	-1.020	-1.131	0.111***	2.946		
<i>CompAcctInd</i>	-3.332	-2.891	-0.441***	-7.948		
<i>SumCulture</i>	9.277	4.411	4.867***	216.091		
<i>StateDensity</i>	0.302	0.260	0.042***	29.782		
<i>Size</i>	6.478	7.278	-0.800***	-31.961		
<i>MTB</i>	3.668	2.673	0.996***	12.930		
<i>Leverage</i>	0.176	0.266	-0.090***	-27.705		
<i>Cashflow</i>	0.032	0.075	-0.042***	-17.734		
<i>Big4</i>	0.784	0.856	-0.072***	-14.641		
<i>SDSale</i>	108.635	163.245	-54.609***	-11.389		
<i>SDCashflow</i>	69.623	109.402	-39.779***	-12.912		
<i>LossProb</i>	0.382	0.229	0.153***	36.864		
<i>SDSalesGrowth</i>	0.487	0.311	0.177***	9.906		

Panel A presents the descriptive statistics for the entire sample. Panel B reports univariate differences and their significance levels for firms with a strong culture and the rest of the sample. *StrongCulture* is an indicator variable that equals 1 if the sum of all five cultural dimensions based on Li, Mai, et al. (2021) for firm *i* is in the top quartile across all Compustat firms in year *t*, and 0 otherwise. All other variables are defined in Appendix A.

Coefficients marked with \*\*\* are significant at 1% level.

**Table 3**  
Corporate culture and financial statement comparability: baseline results.

Dependent variable:	<i>CompAcct4</i>	<i>CompAcct10</i>	<i>CompAcctInd</i>
	(1)	(2)	(3)
<i>StrongCulture</i>	0.139*** (3.31)	0.158*** (3.01)	0.166** (2.07)
<i>Size</i>	0.140*** (5.12)	0.173*** (5.35)	0.302*** (6.72)
<i>MTB</i>	0.007*** (3.27)	0.009*** (3.34)	0.011*** (2.68)
<i>Leverage</i>	-0.578*** (-5.53)	-0.711*** (-5.26)	-1.166*** (-5.03)
<i>Cashflow</i>	-0.512*** (-4.45)	-0.627*** (-4.36)	-0.111 (-0.43)
<i>Big4</i>	-0.046 (-1.01)	-0.054 (-0.97)	-0.077 (-0.82)
<i>SDSale</i>	-0.001*** (-4.14)	-0.001*** (-4.21)	-0.001*** (-4.37)
<i>SDCashflow</i>	-0.001** (-2.35)	-0.001** (-2.38)	-0.001*** (-3.15)
<i>LossProb</i>	-1.117*** (-14.40)	-1.497*** (-15.86)	-3.213*** (-21.33)
<i>SDSalesGrowth</i>	-0.005 (-0.42)	-0.001 (-0.05)	0.050** (2.37)
Intercept	-1.331*** (-4.33)	-1.667*** (-4.67)	-4.217*** (-8.44)
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Adjusted R <sup>2</sup>	0.098	0.124	0.185
Observations	30,875	30,875	30,875

Coefficients marked with \*, \*\*, and \*\*\* are significant at 10%, 5%, and 1%, respectively. The *t*-statistics are based on robust standard errors clustered at the firm level.

This table presents the OLS test results for the association between corporate culture and financial statement comparability using the entire sample.  $CompAcct4_{it}$  ( $CompAcct10_{it}$ ) is the average  $CompAcct_{ijt}$  of the four (ten) firms *j* with the highest comparability rank to firm *i* during period *t*.  $CompAcctInd_{it}$  is the median  $CompAcct_{ijt}$  for all firms *j* in the same industry as firm *i* during period *t*.  $CompAcct_{ijt}$  is the pairwise comparability measure derived based on De Franco et al. (2011). *StrongCulture* is an indicator variable that equals 1 if the sum of all five cultural dimensions based on Li, Mai, et al. (2021) for firm *i* is in the top quartile across all Compustat firms in year *t*, and 0 otherwise. Industry and year fixed effects are added but the results are omitted for brevity. All other variables are defined in Appendix A.

accounting systems (see, Eq. (4)), it is multiplied by -1 so higher values indicate greater comparability. Therefore, the mean and median values of all three measures of comparability in Panel A are negative. Approximately, one-quarter of firm-years have a strong corporate culture consistent with the quartile classification.<sup>7</sup> The mean and standard deviation of natural logarithm of total assets suggests that there is considerable variation in firm size. The mean (median) market-to-book ratio is 2.907 (2.035), suggesting that the sample has more growth than value firms. The average firm has 24.4% in total debt compared to total assets. Approximately 84% of firms are audited by a Big 4 audit firm.

Table 2, Panel B provides univariate differences for all variables contingent upon the strength of corporate culture. Firms with strong corporate culture score higher in two out of three measures of firm-year comparability as depicted by the positive and statistically significant *t*-statistics for *CompAcct4* and *CompAcct10*. The difference for the third measure, *CompAcctInd* is negative and statistically significant, indicating that firms with strong corporate culture have lower industry-level comparability. Firms with a strong corporate culture differ from the rest of the sample firms across all observable firm characteristics. Firms

<sup>7</sup> The final sample is derived after the quartile rankings are created for all Compustat firms, which results in 23.5% of firms having a strong corporate culture instead of 25.0%. In robustness tests (see, Table 6), I use the sum of all five corporate culture values instead of the indicator variable.

with strong corporate culture are smaller and growth-oriented, and have lower leverage and cash flow from operations. These observable differences are statistically significant at  $p < 0.01$  (two-tailed) significance levels.

## 5. Main empirical results

### 5.1. Baseline results

I start my multivariate analyses by estimating Eq. (5) using the entire sample of firm-year observations. Table 3 provides results for my baseline regression. The coefficient of interest, *StrongCulture*, has a positive sign across all three models, suggesting that firms with strong corporate cultures have greater peer- and industry-level accounting comparability. In columns (1) and (2), the coefficient is statistically significant at  $p < 0.01$  (two-tailed) while in column (3), the coefficient is statistically significant at  $p < 0.05$  (two-tailed) significance levels. This is in line with my prediction in *H1*, i.e., firms with strong corporate cultures have greater financial statement comparability than firms with weak corporate cultures. The results are also economically meaningful. For instance, the coefficient on *StrongCulture* in column (1) and summary statistics in Table 2 suggests that firms with strong corporate culture have 17.75% [ $0.139 \div 0.783 \times 100$ ] higher *CompAcct4* and 14.30% [ $0.158 \div 1.105 \times 100$ ] higher *CompAcct10* than the average firm in the sample.

The signs on the coefficients of the control variables are largely in line with the theoretical predictions. For instance, larger and more growth-oriented firms have greater comparability as indicated by the positive and statistically significant coefficients of *Size* and *MTB*. Similarly, firms with more leverage, greater standard deviation of sales and cash flows, and higher proportion of losses in the previous quarters have lower accounting comparability. This is indicated by the negative and statistically significant coefficients of *Leverage*, *SDSale*, *SDCashflow*, and *LossProb*. The adjusted R<sup>2</sup> for the models range between 9.8 and 18.5% and are largely consistent with De Franco et al. (2011). I next address potential endogeneity concerns associated with my baselines results.

### 5.2. Entropy balancing

As indicated by the univariate differences in Table 2, Panel B, firms with strong corporate cultures differ significantly from the rest of the sample firms. It is possible that the baseline results in Table 3 are driven by one or more of these observable differences in firm characteristics between the two groups. To mitigate this concern, I implement entropy balancing (see, Hainmueller, 2012). This technique relies on an assignment of weights to the control sample across all variables (covariates) in such a way that their mean and variance are virtually identical to the treatment sample. Since entropy balancing does not require continual balance checking and iterative searching in finite samples, it is superior to traditional matching techniques such as propensity score matching (Hainmueller, 2012, p. 26).<sup>8</sup> Several recent accounting studies employ this methodology to control for observable differences between treatment and control samples (e.g., Chahine, Colak, Hasan, & Mazboudi, 2020; McMullin & Schonberger, 2020).

Table 4, Panel A reports mean and standard deviation for all variables across the treatment and control groups. For the control sample, mean and standard deviation are provided both before and after entropy balancing. The statistics indicate that mean and standard deviation differences between the treatment (*StrongCulture* = 1) and control (*StrongCulture* = 0) samples across all variables are economically significant. However, post-balancing statistics are virtually identical between the two samples. Using the weights generated to balance the

<sup>8</sup> My results (untabulated) are similar if I use propensity score models instead of entropy balancing.

**Table 4**  
Corporate culture and financial statement comparability: entropy balancing results.

Panel A: Univariate Differences Before and After Entropy Balancing						
	Strong Culture = 1 (Mean)	Strong Culture = 0 (Mean)	Strong Culture = 0 (Mean)	Strong Culture = 1 (SD)	Strong Culture = 0 (SD)	Strong Culture = 0 (SD)
		Pre-Balancing	Post-Balancing		Pre-Balancing	Post-Balancing
Size	6.478	7.278	6.479	2.048	1.805	2.049
MTB	3.668	2.673	3.667	7.091	5.252	7.092
Leverage	0.176	0.266	0.176	0.260	0.235	0.260
Cashflow	0.032	0.075	0.032	0.259	0.145	0.259
Big4	0.784	0.856	0.784	0.411	0.351	0.411
SDSale	108.635	163.245	108.700	323.301	367.139	323.339
SDCashflow	69.623	109.402	69.678	194.329	239.374	194.419
LossProb	0.382	0.229	0.382	0.374	0.287	0.374
SDSalesGrowth	0.487	0.311	0.487	1.802	1.143	1.802
Panel B: Regression Results After Entropy Balancing						
Dependent variable:	<i>CompAcct4</i>		<i>CompAcct10</i>		<i>CompAcctInd</i>	
	(1)		(2)		(3)	
StrongCulture	0.127*** (3.43)		0.153*** (3.25)		0.236*** (2.90)	
Size	0.127*** (5.46)		0.159*** (5.53)		0.345*** (7.55)	
MTB	0.004* (1.71)		0.005* (1.70)		0.006 (1.25)	
Leverage	-0.355*** (-3.10)		-0.429*** (-2.93)		-0.876*** (-3.37)	
Cashflow	-0.163** (-2.04)		-0.168 (-1.57)		0.502 (1.45)	
Big4	-0.056 (-1.25)		-0.064 (-1.13)		-0.132 (-1.23)	
SDSale	-0.000** (-2.39)		-0.001** (-2.48)		-0.001*** (-3.00)	
SDCashflow	-0.001** (-2.43)		-0.001** (-2.33)		-0.002*** (-2.91)	
LossProb	-0.974*** (-14.00)		-1.338*** (-15.62)		-3.247*** (-19.64)	
SDSalesGrowth	-0.002 (-0.24)		0.000 (0.05)		0.029 (1.41)	
Intercept	-1.281*** (-5.06)		-1.679*** (-5.45)		-4.650*** (-8.26)	
Industry Fixed Effects	Yes		Yes		Yes	
Year Fixed Effects	Yes		Yes		Yes	
Adjusted R <sup>2</sup>	0.128		0.152		0.224	
Observations	30,875		30,875		30,875	

Coefficients marked with \*, \*\*, and \*\*\* are significant at 10%, 5%, and 1%, respectively. The *t*-statistics are based on robust standard errors clustered at the firm level. This table presents test results for the association between corporate culture and financial statement comparability using the entropy-balanced sample. Panel A reports the descriptive statistics for the control and treatment groups before and after entropy balancing. Panel B presents the regression results. *CompAcct4<sub>it</sub>* (*CompAcct10<sub>it</sub>*) is the average *CompAcct<sub>ijt</sub>* of the four (ten) firms *j* with the highest comparability rank to firm *i* during period *t*. *CompAcctInd<sub>it</sub>* is the median *CompAcct<sub>ijt</sub>* for all firms *j* in the same industry as firm *i* during period *t*. *CompAcct<sub>ijt</sub>* is the pairwise comparability measure derived based on De Franco et al. (2011). *StrongCulture* is an indicator variable that equals 1 if the sum of all five cultural dimensions based on Li, Mai, et al. (2021) for firm *i* is in the top quartile across all Compustat firms in year *t*, and 0 otherwise. Industry and year fixed effects are added but the results are omitted for brevity. All other variables are defined in Appendix A.

**Table 5**  
Corporate culture and financial statement comparability: Heckman two-step model.

Heckman stage:	First Stage	Second Stage	Second Stage	Second Stage
Dependent variable:	<i>StrongCulture</i>	<i>CompAcct4</i>	<i>CompAcct10</i>	<i>CompAcctInd</i>
	(1)	(2)	(3)	(4)
<i>StateDensity</i>	0.545*** (4.70)			
<i>StrongCulture</i>		0.513*** (2.80)	0.580*** (2.99)	0.997*** (2.92)
<i>Size</i>	-0.061*** (-8.50)	0.158*** (20.69)	0.201*** (26.97)	0.296*** (23.80)
<i>MTB</i>	0.009*** (5.69)	0.004* (1.94)	0.005*** (2.73)	0.006** (2.33)
<i>Leverage</i>	-0.482*** (-8.43)	-0.628*** (-9.02)	-0.813*** (-12.19)	-1.188*** (-11.06)
<i>Cashflow</i>	-0.326*** (-5.08)	-0.320*** (-5.13)	-0.359*** (-4.40)	0.073 (0.53)
<i>Big4</i>	-0.077** (-2.57)	-0.094*** (-4.17)	-0.118*** (-4.52)	-0.133*** (-3.87)
<i>SDSale</i>	0.000*** (3.30)	-0.000*** (-4.50)	-0.000*** (-5.01)	-0.000*** (-3.87)
<i>SDCashflow</i>	0.000** (2.56)	-0.000*** (-9.94)	-0.001*** (-9.89)	-0.001*** (-8.36)
<i>LossProb</i>	0.480*** (11.41)	-1.305*** (-25.19)	-1.744*** (-28.32)	-2.771*** (-29.47)
<i>SDSalesGrowth</i>	0.023*** (2.82)	0.008 (1.16)	0.015* (1.69)	0.046*** (3.55)
<i>Inverse Mills Ratio</i>		-0.212** (-2.03)	-0.232** (-2.12)	-0.443** (-2.28)
Intercept	-1.752** (-2.04)	-1.749*** (-3.75)	-2.229*** (-4.60)	-7.127*** (-10.60)
Industry Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Wald $\chi^2$		13,161.30	16,528.72	24,130.45
p-value		0.000	0.000	0.000
Observations	27,800	27,800	27,800	27,800

Coefficients marked with \*, \*\*, and \*\*\* are significant at 10%, 5%, and 1%, respectively. The *t*-statistics are based on robust standard errors obtained through bootstrapping and 50 replications.

This table presents the test results for the association between corporate culture and financial statement comparability using the Heckman two-step sample selection model. *CompAcct4<sub>it</sub>* (*CompAcct10<sub>it</sub>*) is the average *CompAcct<sub>ijt</sub>* of the four (ten) firms *j* with the highest comparability rank to firm *i* during period *t*. *CompAcctInd<sub>it</sub>* is the median *CompAcct<sub>ijt</sub>* for all firms *j* in the same industry as firm *i* during period *t*. *CompAcct<sub>ijt</sub>* is the pairwise comparability measure derived based on De Franco et al. (2011). *StateDensity* is the number of firms with strong corporate cultures in a different industry but the same state as the firm in question divided by the total number of firms in those industries in the state. *StrongCulture* is an indicator variable that equals 1 if the sum of all five cultural dimensions based on Li, Mai, et al. (2021) for firm *i* is in the top quartile across all Compustat firms in year *t*, and 0 otherwise. Industry and year fixed effects are added but the results are omitted for brevity. All other variables are defined in Appendix A.

covariates, I re-estimate Eq. (5). Table 4, Panel B provides the regression results for this specification. The results show that the coefficient on *StrongCulture* is positive and statistically significant across all three measures of comparability. These findings further support my predictions in H1 and mitigate concerns that my baseline results are driven by observable differences between the treatment and control groups.

### 5.3. Heckman two-step model

Another potential concern relating to endogeneity is the problem of sample selection bias. More specifically, firms in my sample are not randomly assigned to have a certain type of culture but rather choose their own set of values and norms that forms their internal corporate

**Table 6**  
Corporate culture and financial statement comparability: alternative measure of corporate culture.

Dependent variable:	<i>CompAcct4</i>	<i>CompAcct10</i>	<i>CompAcctInd</i>
	(1)	(2)	(3)
<i>SumCulture</i>	0.024*** (2.62)	0.028** (2.50)	0.030* (1.86)
<i>Size</i>	0.140*** (5.13)	0.173*** (5.35)	0.302*** (6.72)
<i>MTB</i>	0.007*** (3.22)	0.009*** (3.28)	0.011*** (2.63)
<i>Leverage</i>	-0.571*** (-5.45)	-0.701*** (-5.19)	-1.155*** (-4.98)
<i>Cashflow</i>	-0.509*** (-4.37)	-0.623*** (-4.30)	-0.106 (-0.41)
<i>Big4</i>	-0.047 (-1.04)	-0.056 (-0.99)	-0.079 (-0.84)
<i>SDSale</i>	-0.001*** (-4.13)	-0.001*** (-4.20)	-0.001*** (-4.36)
<i>SDCashflow</i>	-0.001** (-2.39)	-0.001** (-2.41)	-0.001*** (-3.18)
<i>LossProb</i>	-1.122*** (-14.42)	-1.504*** (-15.88)	-3.220*** (-21.38)
<i>SDSalesGrowth</i>	-0.004 (-0.40)	-0.001 (-0.04)	0.050** (2.37)
Intercept	-1.401*** (-4.57)	-1.749*** (-4.89)	-4.306*** (-8.55)
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Adjusted R <sup>2</sup>	0.098	0.124	0.185
Observations	30,875	30,875	30,875

Coefficients marked with \*, \*\*, and \*\*\* are significant at 10%, 5%, and 1%, respectively. The *t*-statistics are based on robust standard errors clustered at the firm level.

This table presents the OLS test results for the association between corporate culture and financial statement comparability using the entire sample and an alternative measure of corporate culture. *CompAcct4<sub>it</sub>* (*CompAcct10<sub>it</sub>*) is the average *CompAcct<sub>ijt</sub>* of the four (ten) firms *j* with the highest comparability rank to firm *i* during period *t*. *CompAcctInd<sub>it</sub>* is the median *CompAcct<sub>ijt</sub>* for all firms *j* in the same industry as firm *i* during period *t*. *CompAcct<sub>ijt</sub>* is the pairwise comparability measure derived based on De Franco et al. (2011). *SumCulture* is the sum of all five cultural dimensions based on Li, Mai, et al. (2021) for firm *i* in year *t*. Industry and year fixed effects are added but the results are omitted for brevity. All other variables are defined in Appendix A.

culture. To correct for this bias, I implement a two-step procedure suggested by Heckman (1979). In the first step, I use a probit model to predict the probability of having a strong corporate culture. To do this, I use all the control variables in Eq. (5) and an instrumental variable that is arguably exogenous to accounting comparability. To construct this variable (denoted as *StateDensity*), I calculate the number of firms with strong corporate cultures in the same state but different industry as the firm in question and divide it by the total number of firms in those industries in the state. To mitigate measurement error, I require at least 10 such peers for each firm in a state.

The intuition behind using this variable is that firms in close proximity are likely to have similar corporate values and norms since they hire from the local talent pool.<sup>9</sup> However, a priori, there is no evidence that proximity to peers enhances accounting comparability.<sup>10</sup> Table 5,

<sup>9</sup> Local employees possess similar cultural values and norms that help build corporate culture. This assumption is substantiated by Bereskin, Campbell, and Kedia (2020), who show that pro-social employees (defined using community-level social norms) are more likely to curtail corporate misconduct.

<sup>10</sup> Because this measure strictly requires that firms are in a different industry, by definition, their financial statement comparability is not captured by *CompAcct4* or other measures of comparability. However, because they share the same local talent pool and are exposed to similar norms and values within the state, it is likely that they have similar corporate cultural values.



column (1) presents the Heckman first-stage regression results.<sup>11</sup> The coefficient on *StateDensity* is positive and statistically significant, which is consistent with my predictions. Columns (2)–(4) present results for the second-stage regressions using three measures of comparability as dependent variables. In addition to the other control variables, the model also adds *Inverse Mills Ratio* to correct for selection due to non-randomness. The second-stage results indicate that firms with strong corporate cultures continue to exhibit greater comparability even after controlling for potential sample selection bias. The coefficients on *Inverse Mills Ratio* are negative and statistically significant, indicating negative selection bias based on the first-stage regression.

#### 5.4. Alternative measure of corporate culture

I create *StrongCulture* based on a classification of all Compustat firms with available corporate culture data into quartiles. However, given that this measure is calculated using a substantially larger sample compared to my final sample, I also use an alternative measure of corporate culture that alleviates this problem. More specifically, I use the sum of all five cultural values, denoted as *SumCulture*. The greater the value of *SumCulture*, the stronger is a firm's corporate culture. Table 6 reveals that using this alternative measure of corporate culture produces similar results to my baseline model. The coefficient on *SumCulture* is positive and statistically significant at  $p < 0.01$ ,  $p < 0.05$ , and  $p < 0.10$  (two-tailed) in columns (1), (2), and (3), respectively. These findings further support my prediction in *H1* that accounting comparability increases as the strength of corporate culture increases.

#### 6. Sudden CEO turnovers, corporate culture, and comparability

Thus far, my analysis indicates that firms with strong corporate cultures have greater peer- and industry-level accounting comparability. To further substantiate this positive association, I employ a difference-in-difference estimation procedure and use sudden CEO changes as an arguably exogenous form of variation for the strength of corporate culture. Prior evidence suggests that executives' behavior at the top is a key determinant of corporate culture (Biggerstaff et al., 2015; Davidson et al., 2015). Therefore, a sudden change in CEO is likely to alter corporate culture, resulting in either stronger or weaker corporate culture than before. I acknowledge that a change in CEO may also influence comparability of financial statements either positively or negatively. To mitigate this concern, I only concentrate on sudden CEO changes that move the firm towards (away from) a strong corporate culture. It is therefore reasonable to argue that sudden CEO changes influence comparability through a change in the strength of corporate culture.

I expect firms with sudden CEO changes to exhibit greater (lower) comparability of financial statements when such a change moves the firm towards (away from) a stronger corporate culture. To test this prediction, I gather all CEO turnovers documented in Gentry, Harrison, Quigley, and Boivie (2021). I then only retain CEO turnovers that happen due to (a) deaths (84 cases), (b) illnesses (96 cases), (c) personal issues (214), and (d) new opportunities (187). These rare turnovers are sudden because the change in CEO is almost always immediate, and the underlying causes do not necessarily call for a change in corporate culture.<sup>12</sup> However, the new CEO can influence corporate culture once hired. After excluding firms with multiple such turnovers and with missing data to calculate the variables in Eq. (5), my final sample for this

<sup>11</sup> I implement Heckman's two-step correction model using Stata command *etregress* (see, Brave & Walstrum, 2014). Alternatively, estimating the inverse mill's ratio manually and including it in the second step does not alter my inferences. However, as pointed out by Hamilton and Nickerson (2003), manual estimation of the Heckman model does not produce correct standard errors.

<sup>12</sup> In contrast, a CEO turnover due to performance may indicate a desire on the part of shareholders to change corporate culture.

**Table 7**

Corporate culture and financial statement comparability: sudden CEO turnover.

Dependent variable:	<i>CompAcct4</i>	<i>CompAcct10</i>	<i>CompAcctInd</i>
	(1)	(2)	(3)
<i>WeakerToStronger</i>	−0.118 (−1.28)	−0.138 (−1.28)	−0.199 (−1.11)
<i>Post</i>	−0.034 (−0.47)	−0.078 (−0.85)	−0.187 (−1.10)
<i>WeakerToStronger</i> × <i>Post</i>	0.328* (1.74)	0.379* (1.80)	0.571** (2.01)
<i>Size</i>	0.097** (2.47)	0.126*** (2.64)	0.230*** (2.88)
<i>MTB</i>	0.013 (0.99)	0.014 (1.02)	0.022 (1.58)
<i>Leverage</i>	−0.245 (−1.32)	−0.301 (−1.27)	−0.311 (−0.64)
<i>Cashflow</i>	−0.664** (−2.07)	−0.808** (−2.13)	−1.124 (−1.59)
<i>Big4</i>	−0.142* (−1.77)	−0.215** (−2.18)	−0.398* (−1.94)
<i>SDSale</i>	−0.000 (−1.49)	−0.000 (−1.61)	−0.000* (−1.77)
<i>SDCashflow</i>	0.000 (0.16)	0.000 (0.05)	−0.000 (−0.36)
<i>LossProb</i>	−1.472*** (−3.55)	−1.956*** (−4.32)	−3.970*** (−6.56)
<i>SDSalesGrowth</i>	0.053** (2.11)	0.068** (2.23)	0.157*** (3.02)
Intercept	−0.270 (−0.62)	−0.366 (−0.65)	−2.523*** (−2.87)
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Adjusted R <sup>2</sup>	0.297	0.384	0.459
Observations	1817	1817	1817

Coefficients marked with \*, \*\*, and \*\*\* are significant at 10%, 5%, and 1%, respectively. The *t*-statistics are based on robust standard errors clustered at the firm level.

This table presents the OLS test results for the association between corporate culture and financial statement comparability using sudden CEO changes in a difference-in-difference specification.  $CompAcct4_{it}$  ( $CompAcct10_{it}$ ) is the average  $CompAcct_{ijt}$  of the four (ten) firms *j* with the highest comparability rank to firm *i* during period *t*.  $CompAcctInd_{it}$  is the median  $CompAcct_{ijt}$  for all firms *j* in the same industry as firm *i* during period *t*.  $CompAcct_{ijt}$  is the pairwise comparability measure derived based on De Franco et al. (2011). *WeakerToStronger* equals 1 if the sum of corporate culture values for the firm based on Li, Mai, et al. (2021) is greater after the sudden CEO turnover than before, and 0 if the sum is smaller after the CEO turnover than before. *Post* equals 1 for the years after the sudden CEO turnover, and 0 otherwise. Industry and year fixed effects are added but the results are omitted for brevity. All other variables are defined in Appendix A.

estimation comprises 1817 firm-year observations belonging to 145 firms. The average sum of corporate culture values for firms moving towards a strong corporate culture before the CEO turnover is 5.50, the average sum after the turnover is 6.24, amounting to an average increase of 13.46%. Similarly, the average sum of corporate culture values for firms moving away from a strong corporate culture before the CEO turnover is 5.43, the average sum after the turnover is 5.06, amounting to an average decrease of 6.81%. These changes constitute a sizeable and economically significant variation in corporate culture due to CEO turnover.

Using this sample, I compare the sum of all cultural values for each firm one year after the new CEO takes office with the most recent year in which the dismissed CEO held office. I then calculate my main variable of interest, *WeakerToStronger*, as an indicator variable that equals 1 if the sum of corporate culture values for the firm is greater after the CEO turnover than before, and 0 if the sum is smaller after the CEO turnover than before. I find that 90 firms (1062 firm-years) move towards a stronger corporate culture and 55 firms (755 firm-years) move away from a stronger corporate culture. To compare the pre- and post-turnover period, I create another indicator variable which equals 1 for the years after the turnover, and 0 otherwise.

$$\begin{aligned} \text{CompAcct}_{it} = & \beta_0 + \beta_1 \text{WeakerToStronger}_{it} + \beta_2 \text{Post}_{it} + \beta_3 \text{WeakerToStronger} \\ & \times \text{Post}_{it} + \beta_n \text{Controls} + \text{Industry Fixed Effects} \\ & + \text{Year Fixed Effects} + \varepsilon_{it} \end{aligned} \quad (6)$$

Using this final sample of 1817 firm-year observations, I estimate Eq. (6). The main variable of interest is the interaction term between *WeakerToStronger* and *Post*, while *Controls* is the same set of control variables as defined in Eq. (5). The results for this specification are provided in Table 7. The interaction term (*WeakerToStronger* × *Post*) is positive across all three models of accounting comparability. The coefficient is statistically significant at  $p < 0.10$  and  $p < 0.05$  (two-tailed) in columns (1)–(2), and column (3), respectively. This indicates that sudden CEO changes that result in strengthening (weakening) corporate culture have a positive (negative) effect on financial statement comparability. Overall, these findings are in line with my baseline results and my prediction in H1.

## 7. Conclusion

In this study, I empirically examine how the strength of corporate culture relates to comparability of financial statements. Using a sample of U.S. firms and newly-develop machine-learning-based measure of corporate culture, I find that firms with stronger corporate cultures have greater financial statement comparability. These results are not

explained by observable differences in firm characteristics or sample selection bias resulting from non-randomness. Further analyses suggest that sudden CEO turnovers that move the firm towards (away from) a stronger corporate culture, positively (negatively) influence accounting comparability post-turnover. These findings are in line with the intuition that managers in strong culture firms tend to act less opportunistically, resulting in more homogenous decision-making when faced with similar economic events. My findings contribute to two unique strands of literature. First, I provide new evidence on how corporate culture has implications for financial reporting outcomes, and second, I extend the literature on the economic benefits of having a strong corporate culture.

## Data availability

The authors do not have permission to share data.

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## Appendix A. Variable definitions

Corporate Culture Measures	
<i>StrongCulture</i>	Equals 1 if the sum of all five cultural dimensions ( <i>innovation, integrity, quality, respect, and teamwork</i> ) based on Li, Mai, et al. (2021) for firm <i>i</i> is in the top quartile across all Compustat firms in year <i>t</i> , and 0 otherwise.
<i>SumCulture</i>	Sum of all five cultural dimensions based on Li, Mai, et al. (2021) for firm <i>i</i> in year <i>t</i> .
<i>WeakerToStronger</i>	Equals 1 if the sum of corporate culture values for the firm based on Li, Mai, et al. (2021) is greater after the sudden CEO turnover than before, and 0 if the sum is smaller after the CEO turnover than before.
Comparability Measures	
<i>CompAcct<sub>ijt</sub></i>	The absolute value of the difference in the predicted value of a regression of firm <i>i</i> 's earnings on firm <i>i</i> 's return using the estimated coefficients for firms <i>i</i> and <i>j</i> , respectively. It is calculated for each firm <i>i</i> – firm <i>j</i> pair in the same two-digit SIC industry.
<i>CompAcct4</i>	The average of the four highest <i>CompAcct<sub>ijt</sub></i> values for firm <i>i</i> .
<i>CompAcct10</i>	The average of the ten highest <i>CompAcct<sub>ijt</sub></i> values for firm <i>i</i> .
<i>CompAcctInd</i>	The median comparability <i>CompAcct<sub>ijt</sub></i> across all <i>j</i> firms in firm <i>i</i> 's industry.
Control Variables	
<i>Size</i>	Natural logarithm of market value of equity (item 24 * item 25)
<i>MTB</i>	Market-to-book ratio, calculated as the market value of equity (item 24 * item 25) divided by book value of equity (item 60).
<i>Leverage</i>	Total debt (item 142 + 34) divided by total assets (item 6).
<i>Cashflow</i>	Cash flow from operations (item 308) divided by beginning value of total assets (item 6).
<i>Big4</i>	Equals 1 if the firm is audited by one of the Big 4 audit firms, and zero otherwise.
<i>SDSales</i>	Standard deviation of quarterly sales ( <i>saleq</i> ) over the previous 16 quarters, with at least 8 quarters of non-missing observations.
<i>SDCashflow</i>	Standard deviation of quarterly cash flows ( <i>oancfq</i> ) over the previous 16 quarters, with at least 8 quarters of non-missing observations.
<i>LossProb</i>	Proportion of loss quarters ( <i>ibq</i> < 0) over the previous 16 quarters, with at least 8 quarters of non-missing observations.
<i>SDSalesGrowth</i>	Standard deviation of quarterly sales growth over the previous 16 quarters, with at least 8 quarters of non-missing observations.
Other Variables	
<i>StateDensity</i>	Number of firms with strong corporate cultures in the same state but different industries as the firm in question divided by the total number of firms in those industries in the state.
<i>Post</i>	Equals 1 for the years after the sudden CEO turnover, and 0 otherwise.

## References

- Afzali, M., Colak, G., Hasan, I., & Martikainen, M. (2020). Social capital, corporate reporting culture, and accounting conservatism. SSRN Electronic Journal. Available at SSRN: <https://doi.org/10.2139/ssrn.4230516>.
- Ahn, H., Choi, S., & Yun, S. C. (2020). Financial statement comparability and the market value of cash holdings. *Accounting Horizons*, 34(3), 1–21.
- Barth, M. E., Landsman, W. R., Lang, M., & Williams, C. (2012). Are IFRS-based and US GAAP-based accounting amounts comparable? *Journal of Accounting and Economics*, 54(1), 68–93.
- Bereskin, F., Campbell, T., & Kedia, S. (2020). Whistle blowing, forced CEO turnover, and misconduct: The role of socially minded employees and directors. *Management Science*, 66(1), 24–42.
- Bhandari, A., Mammadov, B., Thevenot, M., & Vakilzadeh, H. (2022). Corporate culture and financial reporting quality. *Accounting Horizons*, 36(1), 1–24.
- Biggerstaff, L., Cicero, D. C., & Puckett, A. (2015). Suspect CEOs, unethical culture, and corporate misbehavior. *Journal of Financial Economics*, 117(1), 98–121.
- Biswas, P. K., Habib, A., & Ranasinghe, D. (2022). Firm life cycle and financial statement comparability. *Advances in Accounting*, 58. Article: 100608.
- Brave, S., & Walstrum, T. (2014). Estimating marginal treatment effects using parametric and semiparametric methods. *The Stata Journal*, 14(1), 191–217.

- Brochet, F., Jagolinzer, A. D., & Riedl, E. J. (2013). Mandatory IFRS adoption and financial statement comparability. *Contemporary Accounting Research*, 30(4), 1373–1400.
- Chahine, S., Colak, G., Hasan, I., & Mazboudi, M. (2020). Investor relations and IPO performance. *Review of Accounting Studies*, 25(2), 474–512.
- Chatterjee, A., & Hambrick, D. C. (2007). It's all about me: Narcissistic chief executive officers and their effects on company strategy and performance. *Administrative Science Quarterly*, 52(3), 351–386.
- Chen, C. W., Collins, D. W., Kravet, T. D., & Mergenthaler, R. D. (2018). Financial statement comparability and the efficiency of acquisition decisions. *Contemporary Accounting Research*, 35(1), 164–202.
- Chen, H., Francis, B. B., Hasan, T., & Wu, Q. (2022). Does corporate culture impact audit pricing? Evidence from textual analysis. *Journal of Business Finance and Accounting*, 49(5–6), 778–806.
- Chen, J. Z., Chen, M. H., Chin, C. L., & Lobo, G. J. (2020). Do firms that have a common signing auditor exhibit higher earnings comparability? *The Accounting Review*, 95(3), 115–143.
- Choi, J. H., Choi, S., Myers, L. A., & Ziebart, D. (2019). Financial statement comparability and the informativeness of stock prices about future earnings. *Contemporary Accounting Research*, 36(1), 389–417.
- Davidson, R., Dey, A., & Smith, A. (2015). Executives' "off-the-job" behavior, corporate culture, and financial reporting risk. *Journal of Financial Economics*, 117(1), 5–28.
- De Franco, G., Kothari, S. P., & Verdi, R. S. (2011). The benefits of financial statement comparability. *Journal of Accounting Research*, 49(4), 895–931.
- Dichev, I. D., Graham, J. R., Harvey, C. R., & Rajgopal, S. (2012). Earnings quality: Evidence from the field. *Journal of Accounting and Economics*, 56(2–3), 1–33.
- Edmans, A. (2012). The link between job satisfaction and firm value, with implications for corporate social responsibility. *Academy of Management Perspectives*, 26(4), 1–19.
- Ege, M. S., Kim, Y. H., & Wang, D. (2020). Do global audit firm networks apply consistent audit methodologies across jurisdictions? Evidence from financial reporting comparability. *The Accounting Review*, 95(6), 151–179.
- Fang, X., Li, Y., Xin, B., & Zhang, W. (2016). Financial statement comparability and debt contracting: Evidence from the syndicated loan market. *Accounting Horizons*, 30(2), 277–303.
- Financial Accounting Standard Board (FASB). (1980). *Qualitative characteristics of accounting information. Statement of financial accounting concepts no. 2*. Norwalk, CT: FASB.
- Financial Accounting Standard Board (FASB). (2010). *Conceptual framework for financial reporting. Statement of financial accounting concepts no. 8*. Norwalk, CT: FASB.
- Fiordelisi, F., & Ricci, O. (2014). Corporate culture and CEO turnover. *Journal of Corporate Finance*, 28, 66–82.
- Francis, J. R., Pinnuck, M. L., & Watanabe, O. (2014). Auditor style and financial statement comparability. *The Accounting Review*, 89(2), 605–633.
- Gentry, R. J., Harrison, J. S., Quigley, T. J., & Boivie, S. (2021). A database of CEO turnover and dismissal in S&P 1500 firms, 2000–2018. *Strategic Management Journal*, 42(5), 968–991.
- Graham, J. R., Grennan, J., Harvey, C. R., & Rajgopal, S. (2022). Corporate culture: Evidence from the field. *Journal of Financial Economics*, 146(2), 552–593.
- Guggenmos, R. D., & Van der Stede, W. A. (2020). The effects of creative culture on real earnings management. *Contemporary Accounting Research*, 37(4), 2319–2356.
- Guiso, L., Sapienza, P., & Zingales, L. (2015). The value of corporate culture. *Journal of Financial Economics*, 117(1), 60–76.
- Hainmueller, J. (2012). Entropy balancing for causal effects: A multivariate reweighting method to produce balanced samples in observational studies. *Political Analysis*, 20(1), 25–46.
- Hambrick, D. C. (2007). Upper echelons theory: An update. *Academy of Management Review*, 32(2), 334–343.
- Hamilton, B. H., & Nickerson, J. A. (2003). Correcting for endogeneity in strategic management research. *Strategic Organization*, 1(1), 51–78.
- Heckman, J. J. (1979). Sample selection bias as a specification error. *Econometrica*, 47(1), 153–161.
- Imhof, M. J., Seavey, S. E., & Smith, D. B. (2017). Comparability and cost of equity capital. *Accounting Horizons*, 31(2), 125–138.
- Jha, A. (2019). Financial reports and social capital. *Journal of Business Ethics*, 155(2), 567–596.
- Kim, J. B., Li, L., Lu, L. Y., & Yu, Y. (2016). Financial statement comparability and expected crash risk. *Journal of Accounting and Economics*, 61(2–3), 294–312.
- Kim, S., Kraft, P., & Ryan, S. G. (2013). Financial statement comparability and credit risk. *Review of Accounting Studies*, 18(3), 783–823.
- Lang, M.H., Maffett, M.G., & Owens, E.L. (2010). Earnings comovement and accounting comparability: The effects of mandatory IFRS adoption. SSRN Electronic Journal. Available at SSRN: <https://doi.org/10.2139/ssrn.1676937>.
- Li, J. (2022). The effect of employee satisfaction on effective corporate tax planning: Evidence from Glassdoor. *Advances in Accounting*, 57. Article: 100597.
- Li, K., Liu, X., Mai, F., & Zhang, T. (2021). The role of corporate culture in bad times: Evidence from the COVID-19 pandemic. *Journal of Financial and Quantitative Analysis*, 56(7), 2545–2583.
- Li, K., Mai, F., Shen, R., & Yan, X. (2021). Measuring corporate culture using machine learning. *Review of Financial Studies*, 34(7), 3265–3315.
- Lins, K. V., Servaes, H., & Tamayo, A. (2017). Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis. *Journal of Finance*, 72(4), 1785–1824.
- Liu, X. (2016). Corruption culture and corporate misconduct. *Journal of Financial Economics*, 122(2), 307–327.
- Loughran, T., & McDonald, B. (2016). Textual analysis in accounting and finance: A survey. *Journal of Accounting Research*, 54(4), 1187–1230.
- McGuire, S. T., Omer, T. C., & Sharp, N. Y. (2012). The impact of religion on financial reporting irregularities. *The Accounting Review*, 87(2), 645–673.
- McMullin, J. L., & Schonberger, B. (2020). Entropy-balanced accruals. *Review of Accounting Studies*, 25(1), 84–119.
- Nguyen, D. D., Hagendorff, J., & Eshraghi, A. (2018). Does a CEO's cultural heritage affect performance under competitive pressure? *Review of Financial Studies*, 31(1), 97–141.
- Nguyen, D. D., Nguyen, L., & Sila, V. (2019). Does corporate culture affect bank risk-taking? Evidence from loan-level data. *British Journal of Management*, 30(1), 106–133.
- O'Reilly, C. A., & Chatman, J. A. (1996). Culture as social control: Corporations, cults, and commitment. *Research in Organizational Behavior*, 18, 157–200.
- Pacelli, J. (2019). Corporate culture and analyst catering. *Journal of Accounting and Economics*, 67(1), 120–143.
- Pan, Y., Siegel, S., & Wang, T. Y. (2017). Corporate risk culture. *Journal of Financial and Quantitative Analysis*, 52(6), 2327–2367.
- Petersen, M. A. (2009). Estimating standard errors in finance panel data sets: Comparing approaches. *Review of Financial Studies*, 22(1), 435–480.
- Shi, H., Wen, W., Zhou, G., & Zhu, X. (2021). Do individual auditors have their own styles? Evidence from clients' financial statement comparability in China. *Accounting Horizons*, 35(3), 187–215.
- Sohn, B. C. (2016). The effect of accounting comparability on the accrual-based and real earnings management. *Journal of Accounting and Public Policy*, 35(5), 513–539.
- Sørensen, J. B. (2002). The strength of corporate culture and the reliability of firm performance. *Administrative Science Quarterly*, 47(1), 70–91.
- Weber, Y., Shenkar, O., & Raveh, A. (1996). National and corporate cultural fit in mergers/acquisitions: An exploratory study. *Management Science*, 42(8), 1215–1227.
- Xu, Q., Fernando, G. D., & Tam, K. (2019). Trust and firm performance: A bi-directional study. *Advances in Accounting*, 47. Article: 100433.
- Yip, R. W. Y., & Young, D. (2012). Does mandatory IFRS adoption improve information comparability? *The Accounting Review*, 87(5), 1767–1789.
- Zingales, L. (2015). The "cultural revolution" in finance. *Journal of Financial Economics*, 117(1), 1–4.