Big baths around turnovers: What happens if the former CEO stays on board?

Prior studies on CEO turnover report that CEO retention constrains an incoming CEO's ability to initiate strategic changes at expense of shareholders (Quigley & Hambrick, 2012). However, the extant literature ignored the possibility that the incoming CEO can use managerial discretion opportunistically while making financial reporting decisions. Thus, the retained CEO may monitor the incoming CEO's accounting practices, ultimately benefiting the firm. Using hand-collected data from a sample of US firms, we examine whether retaining an outgoing CEO affects discretional financial reporting practices, such as big baths. Our results suggest that outgoing CEO retention acts as a monitoring mechanism by reducing the probability of opportunistic big baths. In additional analyses, we explore the impact of CEO retention on the information environment and on 10-k narratives.

Keywords: Big Bath; CEO turnover; CEO retention

1. Introduction

CEO turnover is a major corporate event that received considerable attention in the literature. Ample evidence indicates that incoming CEOs manipulate earnings around the turnover event to pursue personal outcomes (e.g., Elliott & Shaw, 1988; Guan et al., 2005; Hazarika et al., 2012; Moore, 1973). Specifically, prior literature documents that new CEOs have incentives to artificially push down earnings by engaging in a 'big bath.' By doing so, the incoming CEO can blame old management for the reported low earnings, thereby shifting the responsibility to the former CEO. Moreover, by pushing earnings down in the year of a big bath, the incoming CEO can recover these earnings in future years, thus artificially inflating performance so the new CEO appears better than his or her predecessor. Studies on CEO turnover generally assume that a CEO leaves the firm after the turnover. However, recent works point out that this is not always the case, suggesting that firms often retain outgoing CEOs (Evans et al., 2010; Quigley & Hambrick, 2012). Such studies highlighted that retaining the former CEO has consequences for the business decisions of the new (incoming) CEO, who might feel constrained in making strategic changes and delivering performance that varies significantly from that of the prior CEO's era, with negative consequences for shareholders (Quigley & Hambrick, 2012). Despite these findings, the literature lacks analyses of the potential effects of CEO retention on financial reporting choices. In this study, we try to fill this gap by analyzing the impact of CEO retention on the incoming CEO's decision to engage in big baths.

The literature on big baths around CEO turnover generally assumed that big baths occur mainly for the CEO's personal incentives (Moore, 1973). However, some studies demonstrated that not all big baths are opportunistic; they sometimes aim to 'clean' accounting numbers, thus benefiting a firm's information environment. For

instance, Hope and Wang (2018) find that accounting numbers are more representative of the firm's economic fundamentals after big baths, and hence, big baths benefit the firm. We follow Haggard et al. (2015) to differentiate between opportunistic (forced) and non-opportunistic (voluntary) big baths and analyze whether CEO retention has varying impacts on the probability of the incoming CEO undertaking *opportunistic* big baths versus non-opportunistic ones.

We address our research question using a sample of S&P 1500 firms for the period 2003–2014. We identify 1,227 CEO turnover events, comprising 440 cases of retained CEOs. Using a three-stage least squares (3SLS) methodology to control for endogeneity, we find that CEO retention decreases the probability of the firm undertaking a big bath. Additionally, CEO retention lowers the probability of *opportunistic* big baths. These results show that retained CEOs might play a monitoring role in firms' financial reporting choices around turnover events and therefore suggests the beneficial effects of CEO retention on corporate reporting.

In additional analyses, we investigate the association between opportunistic big baths and the firm's information environment when the firm retains the prior CEO. The negative association between opportunistic big baths and the quality of a firm's information environment exists only when the outgoing CEO leaves the firm. These results confirm that retaining the predecessor can benefit firm as this prior CEO seems to monitor the opportunistic behaviors of the new CEO. We also look at the impact of CEO retention on the narratives around the turnover event. Specifically, we consider the narratives in firm's 10-K filings using net optimism, which we compute as the difference between positive and negative words, following Loughran and McDonald's (2011) method. We find that while the tone of the financial statements is generally more

optimistic if the outgoing CEO is retained, this effect does not vary if the outgoing CEO undertakes a big bath.

Our findings are robust to alternative specifications. Specifically, we analyze the timing of CEO turnover, entropy balancing, anddistinguishing between internally promoted or externally hired incoming CEOs.

This study contributes to the literature in two ways. First, we extend the stream of research on the consequences of CEO turnover in terms of the impact of retaining the former CEO on the board. In contrast with prior work (Quigley & Hambrick, 2012) that documents a negative impact of CEO retention on strategic choices like resource allocation, divestitures, and executive replacements, we find that CEO retention can benefit the firm's financial reporting practices. Specifically, our evidence shows that retaining an outgoing CEO restricts the opportunistic financial reporting practices of the new CEO. Thus, an outgoing CEO can help improve the monitoring of the new CEO, as he or she is familiar with firm-specific challenges. By documenting that CEO retention does not affect all corporate choices in the same way, our results also complement the literature on the board's monitoring role (e.g., Minnick, 2011, Reitenga & Tearney, 2003; Zhang, 2019). Prior studies (Boivie et al., 2016; Hillman & Dalziel, 2003) suggest that the board of directors is not effective in its monitoring role if it lacks firm-specific knowledge. Retaining outgoing CEOs might overcome this knowledge deficit, helping to curb the opportunistic financial reporting choices of new CEOs. Second, we contribute to the literature on big baths surrounding CEO turnover events. Prior studies investigate the cross-sectional variation in incoming CEOs, focusing on CEO overconfidence (Pierk, 2021) and ethical behavior (Hope & Wang, 2018). Instead, we exploit variation in outgoing CEOs and document a potential benefit of outgoing CEO retention on financial reporting choices.

Our results have implications for boards, regulators, and corporate governance, as they suggest that retaining the previous CEO prevents the new CEO from taking decisions that could harm the firm, thus aligning the managers' actions with the stakeholders' interests. Hence, in the event of a CEO turnover, directors may want to consider retaining the outgoing CEO as a monitor of the new CEO (Evans et al., 2010).

The remainder of this paper is organized as follows. Section 2 discusses the theory and develops our hypotheses. Section 3 describes the data and estimation methods used. Section 4 discusses the results and provides additional analyses and robustness tests. Section 5 concludes the paper.

2. Theory and Hypotheses

Big bath

A big bath is an accounting practice in which managers charge significant non-recurring items to reduce current earnings. Big baths often occur during economic downturns, when earnings are already low (Jordan & Clark, 2015) and the market is less likely to punish the firm for bad earnings outcomes. Thus, the company has very little downside to taking a big bath, while they gain a bigger upside, as recording heavy write-downs in the current year relieves the company of future charges, which enables the firm to reach earnings targets in subsequent years (Jordan & Clark, 2015). A company can also take these one-time hits to income when the anticipated current earnings are above the expected threshold and the manager is pessimistic about future earnings (the so-called cookie-jar phenomenon) as discussed in Levitt (1998)[1].

[1] Big baths are prevalent in reality. For instance, General Motors took a big bath in 2008, announcing a net loss of $15.5 billion in the second quarter. This event was preceded by

Although the recognition of non-recurring items must meet accounting standards, there is room for managerial discretion. Managers can use this discretion opportunistically or to genuinely benefit the firm. The literature provides mixed evidence on the motivation behind big baths. On the one hand, big baths can reflect management expectations of a future decline in the firm's performance by creating larger valuation allowances (Christensen et al., 2008). Moreover, some studies establish that accounting numbers are more reliable following big bath write-downs because they are more reflective of a firm's economic fundamentals (Hope and Wang 2018). This improvement could manifest in the form of smoother earnings, lower information asymmetry, and higher responsiveness of stock returns to unexpected earnings (Haggard et al. 2015). On the other hand, empirical studies find that a big bath deteriorates a firm's information environment, which is consistent with the opportunistic view (Elliott & Shaw, 1988). For example, Elliott and Shaw (1988) show a negative share return on the day write-offs are disclosed for a sample of firms reporting discretionary write-offs, suggesting that financial markets generally do not view big baths favorably. Further, they report that analysts reduced their earnings forecasts for these firms, and bond ratings decreased.

Prior studies show that big baths happen more frequently around important corporate events, such as CEO turnover (Murphy & Zimmerman, 1993; Strong & Meyer, 1987). In this case, incoming CEOs have incentives to undertake big baths to

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poor performance, and the CEO was not retained post-resignation. Similarly, General Electric took a big bath in 2018 by writing down the value of some of its business units to $22 billion. In this case, despite the company's positive performance, the firm did not retain the CEO. In another recent case, Samsung Electronics was accused of engaging in big bath accounting in 2019, reporting operating profit of $5.47 trillion instead of the expected $7 trillion, due to large write-offs. After announcing 'unprecedented losses,' the CEO resigned without taking any new role in the company. These examples demonstrate that companies engage in various forms of big baths, with the common goal of influencing the current year's earnings such that future earnings look better.

maximize their bonus payments and compensation, as well as to enhance their reputations while blaming losses on their predecessors (Moore, 1973).

CEO turnover and CEO retention

CEO turnover, or CEO succession, is an important strategic event in a firm's historical timeline. Previous studies highlight different causes of CEO turnover, including the need for a new strategic direction, the retirement and/or death of the predecessor, the board's desire for change (Quigley & Hambrick, 2012), and the firing of a CEO after a bad performance (Jenter & Kanaan, 2015). However, some studies suggest that, in addition to the internal management of the firm, external parties, such as investment analysts, can also play a role in CEO dismissal (Wiersema & Zhang, 2011).

Besides the causes, prior studies also investigate the consequences of CEO turnover. When the predecessor leaves the firm and is replaced by a new CEO, the firm is likely to shift its strategy owing to the change in leadership. The new CEO shapes the strategy and future direction of the firm to the extent that he or she has the discretion to do so (Quigley & Hambrick, 2012). In doing so, the new CEO's perceptions and resulting decisions will affect the company's stakeholders (Gamache et al., 2020), perhaps depending on whether the CEO is promoted internally (insider) or recruited externally (outsider). When the new CEO is an outsider, the firm experiences more extreme and volatile performance than when the new CEO is an insider (Quigley et al., 2019). Moreover, when a firm appoints an outsider, it might experience weaker innovation and lower research and development productivity due to the new CEO's lack of firm-specific knowledge (Cummings & Knott, 2018).

Most studies assume that the prior CEO leaves the firm after a turnover. However, Quigley and Hambrick (2012) and Evans et al. (2010) document that the CEO

may stay with the firm as a board member, especially when the firm's performance during the prior CEO's tenure was good, resulting in CEO retention. Retaining CEOs with good past performance can help a firm design future strategies, thus taking the firm in a positive direction. However, the retained CEO could explicitly or implicitly hinder the new CEO's ability to make strategic changes or deliver performance that deviates from pre-succession levels (Quigley & Hambrick, 2012). Specifically, when the firm retains its outgoing CEO, the successor might have relatively weak bargaining power, thus restricting the shareholders' desired new strategic change (Evans et al., 2010).

As discussed earlier, incoming CEOs often use big baths to maximize their self-interests. Specifically, the new CEO shifts responsibility for low earnings to the predecessor. Retaining an outgoing CEO restricts the incoming CEO's discretion (Quigley & Hambrick, 2012). Hence, we contend that the predecessor will exert control over the new CEO's actions, and prevent the shift in responsibility, as reporting low earnings might hurt his or her reputation. Consequently, we expect that the presence of the predecessor will constrain a new CEO's ability to engage in a big bath. Thus, we formally state our hypothesis (in alternative form) as follows:

H1a: A big bath around CEO turnover is less probable if an outgoing CEO is retained within the firm.

As discussed before, the empirical evidence on the nature of big baths is mixed. In particular, some studies find that big bath is opportunistic in nature (Elliott & Shaw, 1988; Murphy & Zimmerman, 1993; Strong & Meyer, 1987) whereas others report that it is beneficial to the firm (Haggard et al., 2015; Hope & Wang, 2018). Both opportunistic and non-opportunistic big baths can hurt the reputation of the outgoing CEO, so he or she might have incentives to restrain both. However, if non-opportunistic big baths are 'expected,' opportunistic big baths are more under the discretion of the new CEO, and

hence more likely to harm the reputation of the outgoing CEO and the firm overall. Thus, we expect the monitoring of the predecessor CEO to be stronger in the case of opportunistic big baths. Formally:

H1b: An opportunistic big bath around CEO turnover is less probable if an outgoing CEO is retained within the firm.

3. Methods

Sample

We test our hypotheses using a sample of US-listed firms for 2003–2014. We start our sample period in 2003 to avoid any effect of the Sarbanes-Oxley Act of 2002 (SOX) on both CEO turnover decisions and big baths.[2] As we identify CEO turnover events from Execucomp (WRDS), our sample is limited to S&P 1500 firms. We exclude firms in the financial sector (SIC codes 6000–6999) and regulated industries (SIC codes 4400–4999), as the reasons for CEO turnover and the measurement of big baths can differ in these industries. We then merge the CEO turnover data with financial information from Compustat North America and market data from the CRSP. We obtain analyst information from I/B/E/S and institutional holdings data from firms' 13-F filings. Our sample contains 12,564 annual observations corresponding to 1,227 CEO turnovers.[3]

[2] SOX was introduced after the Enron scandal of 2002 to improve transparency in financial reporting with stricter enforcement and criminal penalties and higher litigation risk for non-abiding CEOs.

3 We checked all turnover events manually to clearly identify the timing of CEO departure and the CEO responsible for year t's annual reports. We note that ExecuComp information does not always provide exact information about the year in which the turnover event occurs. Gentry et al. (2021) also identify this issue.

We then manually collected information about whether the departing CEO remained or left the company from company websites and CEO biographies. Thus, we identify 440 cases of retained CEOs, representing 35.86% of all CEO turnover events. This statistic is consistent with recent literature. For example, Quigley and Hambrick (2012) report that on average, 35% of their sample firms retain the outgoing CEO as a percentage of their CEO turnover events[4].

Analyses and Model estimations

Our hypotheses pertain to the probability of a big bath around CEO turnover when an outgoing CEO is retained.

We acknowledge that CEO turnover and CEO retention are not exogenous events; rather, they are endogenous to the firm. Moreover, the decisions concerning CEO turnover, CEO retention, and a big bath are not independent. To address these concerns, we use a three-stage least squares (3SLS) approach, which is an appropriate tool to jointly estimate these three decisions. Specifically, we first model the CEO turnover event, followed by the retention of the outgoing CEO, and then estimate the joint effect on the incoming CEO's decision to take a big bath:

$$\text{Prob}\,(\text{CEOTURN}_{it} = 1) = F(\alpha_0 + \alpha_1\,\text{LOCAL DENSITY}_{it} + \sum \text{Controls}_{it}) \quad (1)$$

$$\text{Prob}\,(\text{RETENTION}_{it} = 1) = F(\alpha_0 + \alpha_1\,\text{DELTA}_{it} + \alpha_2\,\text{VEGA}_{it} + \sum \text{Controls}_{it}) \quad (2)$$

[4] We find that the in 87% of cases, the outgoing CEO remains as the board Chairperson.

$$\text{Prob}\,(\text{Big\_Bath}_{it} = 1) = F(\alpha_0 + \alpha_1\,\text{RETENTION}_{it} + \alpha_2\,\text{CEOTURN}_{it} + \sum \text{Controls}_{it}) \quad (3)$$

In Eq. (1), following Mobbs (2013), we examine the likelihood of CEO turnover using *LOCAL DENSITY* as an instrument. CEO turnover is a dummy variable equal to 1 in the three years surrounding a CEO turnover in year t (*t-1*, *t*, and *t+1*) and 0 otherwise. *LOCAL DENSITY* is the natural logarithm of one plus the number of firms with the same year and three-digit zip code of the firm's headquarters. We expect that when more firms are located in the same location as the focal firm, the CEO has more external job opportunities, thus increasing the probability of a CEO turnover. Further, the use of local density as an instrumental variable satisfies the exclusion restriction requirement as we expect that it will not directly influence the likelihood of big baths. As in prior studies (Hazarika et al., 2012), we include other variables that would impact the CEO turnover decision, including controls for the firm's profitability, growth, and institutional ownership. Specifically, we include *GROWTH*, *INSTOWN*, *RET*, *SIZE*, and *ROA*. *GROWTH* is computed as sales growth over the previous year. *INSTOWN* is the percentage of shares held by institutional investors during a fiscal period according to the 13-F filings. *RET* and *SIZE* are the cumulative stock returns and the natural logarithm of total assets, respectively. *ROA* is income before extraordinary items divided by lagged total assets.

In Eq. (2) we model the CEO retention decision using *Delta* and *Vega* as instruments. We define *RETENTION* as a dummy variable equal to 1 in the three years around the CEO turnover (*t-1*, *t*, and *t+1*) and 0 otherwise if the departing CEO is

retained within the firm.[5] *Delta* is the expected dollar change in the outgoing CEO wealth for a 1% change in stock price sensitivity (using the entire portfolio of stocks and options) computed as in Core and Guay (2002). *Vega* is the expected dollar change in the outgoing CEO wealth for a 1% change in stock return volatility (using the entire portfolio of options), also computed as in Core and Guay (2002). Both instruments capture the equity risk incentives of the outgoing CEO before the turnover event. Hence, we expect they will not directly affect the choice of a big bath by the incoming CEO. We also conjecture that when the equity incentives of the outgoing CEO are lower, the CEO is more likely to be retained, as the CEO did not engage in risk-taking activities that negatively influenced the financial position of the firm and shareholders' wealth. Thus, and consistent with Evans et al. (2010) who find that CEOs are more likely to remain when pre-turnover performance is better, the probability of CEO retention will be higher. In line with prior works (Evans et al., 2010) we also include control variables such as *AGE, GROWTH, RETURN, SIZE, ROA,* and *ROA_SQUARED.* *AGE* is the age of the outgoing CEO. To better account for the performance, we include the square of *ROA (ROA_SQUARED)* in addition to the *ROA.* All other control variables are as defined in Eq (1).[6] We also include industry, year, and state fixed effects and robust standard errors when estimating the above model.

[5] Based on prior literature, we acknowledge that the firm may realize the effects of CEO turnover over larger windows surrounding the turnover event. Thus, in line with Haggard et al. (2015) and others we consider the three-year window. We check the robustness of the results by varying the period from three years to one and two years, and find consistent results.

[6] In untabulated results, we rerun the main analysis using retirement as an additional control because we note that most CEO retentions occur because of the retirement of the outgoing CEO. We construct this variable using the CEO dismissal data from Gentry et al. (2021). Our results remain consistent with the main conclusions after including this control.

In Eq. (3) we model the probability of a big bath. Specifically, our main coefficient of interest is α_1. We expect α_1 to be negative, implying that when a firm retains a departing CEO during a CEO turnover event, the probability of a big bath is lower. The variable *Big_Bath* is captured using two common proxies in the literature (Haggard et al., 2015, Hope & Wang, 2018): *BB_SPI* and *BB_ACC*. For our first proxy, we consider whether the firm reported negative special items exceeding 1 percent of the lagged total assets (*BB_SPI*).[7] For the second proxy, we consider whether firms reported extremely negative discretionary accruals (*BB_ACC*). For this second proxy, we identify a big bath if the firm meets the following two criteria: 1) the firm falls in the bottom quintile rank of performance-matched discretionary accruals, computed as in Kothari et al. (2005); and 2) the firm is in the bottom tercile of the basic income rank. We calculated basic income as income before extraordinary items minus special items and then rank firms' basic income into terciles at the industry-year level (with industry represented by the two-digit SIC code).

In Eq (3), following Haggard et al. (2015), Quigley and Hambrick (2012), and Hope and Wang (2018), we include several control variables related chiefly to firm characteristics and are the determinants of big baths. These controls include firm size *(SIZE* and *REVENUE),* firm age *(AGE),* performance *(INCOME* and *RETURN),* growth opportunities *(GROWTH* and *BTM),* and firm leverage *(LEVERAGE).* We also include controls for stock market liquidity such as *LOG_AMH* and *TURNOVER* and for the presence of institutional investors (*INSTOWN),* analysts (*LOG_COVER),* and the need for the firm to engage in a big bath *(BLOATED). BLOATED* is an indicator variable equal

[7] Special items are reported in Compustat as unusual and/or non-recurring items considered special items by the firm, such as bad debt expense if non-recurring, items specially called 'restructuring/reorganization,' or non-recurring gains or losses from asset disposals.

to 1 if net operating assets lie in the first percentile of the sample, where net operating assets are shareholders' equity less cash and marketable securities, plus total debt scaled by lagged sales. This control measures the presence of overstated assets to capture managerial discretion around big baths (Haggard et al., 2015). *REVENUE* is revenue scaled by assets and *INCOME* is net income scaled by assets. *BTM* is the book value of equity divided by the market value of equity. *LEVERAGE* is the debt-to-equity ratio measured as the book value of debt divided by the market value of equity. *LOG_AMH* is the logarithm of Amihud's (2002) liquidity measure. Specifically, we compute *LOG_AMH* as the logarithm of the annual mean of monthly absolute returns divided by the dollar volume [1,000,000 * |ret| ÷ (prc×vol)]. *TURNOVER* is the annual trading volume scaled by outstanding shares. *LOG_COVER* is the natural logarithm of 1 plus the number of analysts issuing earnings forecasts for any horizon during the fiscal period, and 0 for any period with missing data from I/B/E/S. All other variables are as defined in Eqs (1) and (2). Finally, the model includes year and industry fixed effects, and robust standard errors. Table 1 provides the definitions of all the variables.

[TABLE 1 HERE]

4. Results

Descriptive statistics

Table 2 provides descriptive statistics for the variables for big bath, CEO retention, CEO turnover, and the control variables. Specifically, Panel A presents the mean, median, standard deviation, and the 25^{th} and 75^{th} percentiles for the whole sample. Panel B presents this information for firms with and without CEO turnover separately. Panel C presents the statistics separately for firms in which the departing CEO remained or

departed.

In Table 2, Panel A, a big bath occurred in 31.36% and 6.79% of cases using *BB_SPI* and *BB_ACC*, respectively.[8] The average CEO turnovers is 27.09%, while CEOs remained in 9.85% of cases on average for the entire sample, which corresponds to 35.86% of all CEO turnover events, in line with Quigley and Hambrick (2012).[9] In Table 2, Panel B the percentage of average *BB_SPI* is significantly higher when a CEO turnover occurs, in line with studies documenting that a big bath is more probable in the aftermath of CEO turnover. Moreover, the average accounting-based performance (*ROA*) is significantly lower for firms experiencing a CEO turnover, consistent with the idea that a CEO turnover is more probable when the firm is not performing well.

Table 2, Panel C presents the descriptive statistics for observations with CEO turnover, distinguishing between retained (*RETENTION=1*) versus non-retained CEOs (*RETENTION=0*). The probability of a big bath is significantly lower in the case of retained CEOs, in line with our hypothesis. Analyzing the control variables, we observe that several controls differ across the two subsamples. In particular, firms with CEO retention have lower debt-to-equity ratios (*LEVERAGE*), higher liquidity (*LOG_AMH*), higher institutional ownership (*INSTOWN*), wider analyst coverage (*LOG_COVER*), and are slightly larger (*SIZE*). Overall, we find that firms with retained CEOs show signs of better financial health (*INCOME* and *RETURN*). Thus, taken together, the descriptive statistics suggest that the firm characteristics vary depending on whether the CEO is retained.

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[8] The *BB_SPI* and *BB_ACC* results are in line with Hope and Wang (2018). *BB_ACC* has a lower percentage because this definition of big bath requires two criteria to be satisfied and hence is more restrictive.

[9] This 9.85% is not exactly the same as 9.71% (35.86% of 27.09%) because we construct the *RETENTION* variable using the three-year period surrounding the CEO turnover event.

[TABLE 2 HERE]

Table 3 presents the Pearson correlation matrix for the variables. In line with the previous descriptive statistics, we observe a positive and statistically significant correlation between our proxies for big baths and CEO turnover. For CEO retention, we find a negative and statistically significant correlation only with the *BB_ACC* proxy for big baths. However, the correlation analysis does not consider the effects of the control variables. Most correlations between the control variables are statistically significant, but they are small on average, suggesting no evidence of multicollinearity. Our two proxies of big bath, *BB_ACC* and *BB_SPI*, are positively and significantly correlated, with a correlation coefficient of 0.0417. Although the correlation coefficient is positive, it is low in magnitude, indicating that they are distinct but essentially capture the big bath phenomenon. Indeed, the main difference between the two proxies is that *BB_SPI* relates to non-recurring special items, and hence, to one-time large write-offs, while *BB_ACC* captures big baths undertaken through accrual-based accounting items, which tend to be recurring and occur in the normal day-to-day business activities.

[TABLE 3 HERE]

Main results

In Table 4, we present our results from the 3SLS model. Panel A shows the results when using the special items approach (*BB_SPI*). Column (1) presents the results for the first stage of the 3SLS, where we examine the association between *LOCAL_DENSITY* and *CEOTURN*. We find a positive and significant coefficient (0.010) for *LOCAL_DENSITY*, indicating that when more firms are present within the same zip code as the focal firm, the CEO has more external job opportunities, thus increasing the

probability of a CEO turnover. In the second stage, we analyze the relation between CEO retention and the equity risk incentives of the outgoing CEO before the turnover event. We find a negative and statistically significant coefficient (-0.001) for *VEGA*. This result implies that outgoing CEOs with lower equity incentives are more likely to be retained. Consistent with our expectation, this is because the outgoing CEO did not engage in risk-taking activities that would harm shareholders' wealth, and thus the probability of CEO retention is higher. In the last stage, we examine whether outgoing CEO's retention reduces the probability of a big bath. We find a negative and statistically significant coefficient (-0.467) for *RETENTION*, implying a lower probability of a big bath when a firm retains a departing CEO during a CEO turnover event. For *CEOTURN*, we find a positive and statistically significant coefficient (0.576), indicating a higher probability of a big bath when the CEO turnover event occurs.

In Panel B, when using *BB_ACC* as a proxy for big baths, the results are consistent with those in Panel A for *BB_SPI*. In particular, *LOCAL_DENSITY* has a positive and statistically significant coefficient (0.012) in the first stage, *VEGA* has a negative and statistically significant coefficient (-0.001) in the second stage, and *RETENTION* and *CEOTURN* have statistically significant negative (-0.221) and positive (0.088) coefficients, respectively, in the final stage. Thus, in line with H1a, retaining the outgoing CEO reduces the probability that the firm will take a big bath.

Among the control variables, we observe that for both proxies, the probability of a firm taking a big bath is lower when the firm has a higher income (*INCOME*) and stock returns (*RET*). For both proxies, the probability of a big bath is higher when the book-to-market ratio (*BTM*), leverage (*LEVERAGE*), and stock turnover (*TURNOVER*) are higher. Control variables such as firm size (*SIZE*) have different signs for the two proxy variables, consistent with Hope and Wang (2018). Analyst coverage

(*LOG_COVER*) and outgoing CEO's age (*AGE*) are negatively and significantly associated with a big bath only for *BB_SPI*.

[TABLE 4 HERE]

We next investigate whether retaining the outgoing CEO constrains more opportunistic big baths. We follow Haggard et al. (2015) in distinguishing between opportunistic and non-opportunistic big baths, depending on whether the net operating assets are overstated. Specifically, we consider a big bath opportunistic when *BLOATED* is equal to 0; that is, when the firm's net operating assets are lower than the sample first percentile of the net operating assets. Then, we estimate the 3SLS model from Eqs (1), (2), and (3) for each subsample obtained after splitting the sample using the variable *BLOATED*. Table 5 shows that retaining the predecessor CEO reduces the probability of the big bath when it is more likely to be opportunistic. These findings support hypothesis H1b and confirm that the outgoing CEO plays a monitoring role in limiting the opportunistic behavior of the new CEO.

[TABLE 5 HERE]

Additional analyses

Big baths and the firm's information environment

Our results so far suggest that the outgoing CEO plays a monitoring role by decreasing the probability that the incoming CEO undertakes a big bath for opportunistic reasons. To further corroborate our findings, we investigate the association between opportunistic big baths and the information environment depending on whether the outgoing CEO is retained or not. Specifically, if the predecessor CEO restricts the opportunistic behavior of the new CEO, then we should observe that the negative

association between opportunistic big baths and the information environment is weaker when the predecessor CEO remains in the firm.

To test this conjecture, we limit our sample to cases where assets are not overstated, and thus a big bath is not expected (*BLOATED = 0*) and we run Eq (4) separately for two subsamples: 1) when the outgoing CEO is retained (*RETENTION = 1*) and 2) when the outgoing CEO is not retained (*RETENTION = 0*).

$$SPREAD_{it} = \beta_0 + B_1\ BIGBATH_{it} + \sum Controls_{it} + \varepsilon_{it}, \quad (4)$$

where *SPREAD* captures the level of information asymmetry, which reflects a firm's information environment. We follow Hope and Wang (2018) and define *SPREAD* as the annual mean of the daily bid-ask spread, calculated as 100 × (ask – bid)/[(ask + bid)/2]. We use the same two proxies for *BIGBATH*, namely, *BB_SPI* and *BB_ACC*. As we consider only observations for which *BLOATED* is equal to 0, our big bath proxies should capture the association between opportunistic big baths and the firm's information environment. We include controls for *SIZE, BTM, INCOME, LEVERAGE, INSTOWN, LOG_COVER, DELTA,* and *VEGA,* consistent with Hope and Wang (2018). We also add four new controls: performance (change in ROA (*ΔROA*), lagged annual return (*LAG_RET*), and two indicator variables for whether CEO compensation *Delta* or *Vega* are missing (*DELTA_ADJ* and *VEGA_ADJ).*[10] This estimation also includes year and industry fixed effects and robust standard errors.[11]

[10] https://sites.temple.edu/lnaveen/data/

[11] We do not estimate the 3SLS for this additional analysis as this would result in a system of four equations, which would result in overfitting the model to the data and complicate the interpretation of the results. Instead, we estimate the 2SLS where we estimate the big bath as in Eq (1) in the first stage and estimate Eq (4) in the second stage.

Table 6 presents the results for the two proxies of *BIGBATH*. In Column (1) pertaining to *BB_SPI*, the coefficient for *BB_SPI* is negative and significant when the outgoing CEO is retained, while in Column (2), the coefficient for *BB_SPI* is positive and significant when the outgoing CEO is not retained. In Columns (3) and (4), for *BB_ACC*, we find a similar trend, except that the coefficient is negative but not significant when *RETENTION = 1*. These results indicate that an opportunistic big bath is associated with higher information asymmetry when the outgoing CEO is not retained. However, we do not find the same evidence when the outgoing CEO is retained, consistent with this CEO's monitoring role.[12]

[TABLE 6 HERE]

CEO retention and narratives

Big baths are not the only financial reporting choice that new CEOs can make to fulfill their personal interests. Incoming CEOs can use tone in the narratives to influence outsiders' perceptions of their skills and earnings expectations (Breuer et al., 2021; Clatworthy & Jones, 2003). We therefore investigate whether and how narratives change in the years surrounding CEO turnovers when the outgoing CEO is retained. Specifically, we consider the narratives from 10-K using net optimism (*NET_OPT*), computed as the difference between positive and negative words, as in Loughran and McDonald (2011). We estimate the 3SLS Eqs (1), (2), and (3) with *NET_OPT* as the dependent variable and summarize the results in Table 7. We find that when the CEO remains, the tone of the 10-K financial statements is different; specifically, it is more

[12] The fact that big baths do not worsen the information environment when the CEO remains further supports the idea that big baths undertaken in this case can be considered as non-opportunistic; that is, as beneficial for the firm.

optimistic. As prior studies (Breuer et al., 2021) document that incoming CEOs might use tone to set a lower benchmark for their future assessment, we interpret the findings in Table 7 as further evidence that retaining the outgoing CEO limits the incoming CEO's discretion.

In addition, we examine whether the association between tone in narratives and CEO retention varies with the occurrence of a big bath. For this purpose, we regress *NET_OPT* on *CEOTURN* and *RETENTION*, and their interactions with *BB_SPI* and *BB_ACC*. As expected, *NET_OPT* is negatively associated with *BB_SPI* and *BB_ACC*, indicating that the big bath as represented by accounting numbers is associated with a less optimistic tone in the 10-K financial statements. However, the interaction terms between *BB_SPI* and *BB_ACC* with *CEOTURN* and *RETENTION* are not significant, suggesting that the narratives change when the CEO engages in a big bath, irrespective of a CEO turnover event.

[TABLE 7 HERE]

Robustness checks

In our main analyses, we consider the three-year period surrounding the CEO turnover event and CEO retention. To investigate the timing of the big bath in detail by rerunning the analysis for each year separately. In Table 8, we observe a negative association between *RETENTION* and the big bath proxies in the year of the CEO turnover event and the year after, but not in the year before the turnover event. This result reinforces our conclusions from the main analysis, where we find evidence of the monitoring role

of the outgoing CEO on the new CEO's incentives to engage in a big bath.[13]

[TABLE 8 HERE]

To further test our hypotheses, we estimate cross-sectional tests distinguishing between internally and externally hired incoming CEOs. The underlying intuition is that an internally promoted CEO will decrease the need for the monitoring role of the outgoing CEO, as the new CEO will have closer ties with the predecessor CEO. Conversely, if the incoming CEO an external hire, he or she will have stronger incentives to engage in big baths as they will be less beholden to the outgoing CEO. To test our conjecture, we re-estimate the 3SLS by adding an interaction term between CEO retention and a dummy variable capturing whether the new CEO has been internally promoted or externally hired to Eq (3).[14] We find that the negative association between outgoing CEO retention and a big bath is weaker for internally promoted CEOs. These results support our argument that the outgoing CEO plays a monitoring role on the incoming CEO's ability to engage in a big bath.

Lastly, we reinforce the presence of a causal effect between CEO retention and big baths by re-estimating Eq (1) using entropy balancing, following Hainmueller (2012). For this purpose, the treated (*RETENTION*=1) and non-treated observations (*RETENTION*=0) are weighted on all control variables included in Eq (2). The untabulated results for *BB_SPI* and *BB_ACC* are consistent with those in our main analyses: CEO turnover is positively associated with the probability of a big bath, while

[13] These results are consistent with the underlying descriptives concerning the percentage of big baths in the three years surrounding CEO retention and the turnover event. The frequency of big baths is steady across the three years, thus lending validity to our results.

[14] We define internally promoted versus externally hired CEO subsamples by hand-collecting this information for each CEO turnover event from the firms' annual reports and websites. Notably, we find that new CEOs are more likely to be internally promoted when the predecessor CEOs are retained and they performed well over their tenures.

the coefficient for CEO retention is negative and significant. Overall, these results reaffirm the findings of our main analysis, thus bolstering our inferences.

5. Conclusion

Recent studies (Evans et al., 2010; Quigley & Hambrick, 2012) report that outgoing CEOs often remain inside the firm as a board member, which may restrict the strategic discretion of the new CEO. This effect has a negative impact on firm performance. We contribute to this literature by offering a new perspective based on the monitoring role of a retained outgoing CEO. Building on the prior accounting literature, we focus on big bath practices around CEO turnover events. Specifically, we explore whether a big bath around CEO turnover is less probable if the outgoing CEO stays in the firm. Using hand-collected data on a sample of CEO turnover events of US firms for 2003–2014, we find that CEO turnover increases the probability of a firm taking a big bath. However, retaining an outgoing CEO would reduce the probability of a big bath, and specifically of an opportunistic big bath.

In additional analyses, we study the moderating effect of CEO retention on the association between opportunistic big baths and information asymmetry. We find that for opportunistic big baths, retained CEOs lower the negative effects on information asymmetry.

Lastly, we analyze the effects of CEO retention on 10-k narratives and find initial evidence that while CEO retention is associated with more optimistic narratives, it does not seem to influence narrative tone in cases of big baths. Although this is clearly only a preliminary attempt to understand the potential effects of CEO retention on corporate narratives, we believe it provides some interesting hints for future research.

This study contributes to the literature in several ways. First, our results highlight the positive effect of retaining the outgoing CEO, as such CEOs can prevent the new CEO from taking opportunistic big baths. Second, it contributes to the literature on accounting choices and big baths. To the best of our knowledge, no prior study examines the impact of CEO retention on big baths. Furthermore, we contribute to the literature by illustrating a further aspect of the board's monitoring role, as keeping an outgoing CEO on the board restricts potentially harmful decisions by the new CEO. Our results have implications for boards, regulators, and corporate governance mechanisms. In this context, retaining a departing CEO can help align a firm's decisions and actions with those of investors and other stakeholders. Thus, CEO retention could be a useful tool to add to existing corporate governance mechanisms, though this aspect requires further exploration in theory and practice.

Our findings should be interpreted with caution, as our analysis involves a specific sample of publicly listed US S&P 1500 firms. These results might not apply to smaller or private firms, where CEOs' reputational concerns may differ. Future studies could implement similar analyses and investigate the role of retained CEOs in such firms or examine big bath events when the outgoing CEO effectively leaves the firm.

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Table 1. Variable descriptions

Variable	Definition	Source
BB_SPI	Indicator variable equal to 1 if a firm reported negative special items exceeding 1% of lagged total assets, 0 otherwise.	COMPUSTAT
BB_ACC	Indicator variable equal to 1 if: (1) the firm is within the bottom quintile rank of performance-matched discretionary accruals computed as in Kothari et al. (2005) and (2) the firm belongs to the bottom tercile of the basic income rank, 0 otherwise. Basic income is income before extraordinary items minus special items. Firms are ranked on basic income into terciles at the industry-year level (two-digit industry SIC code).	COMPUSTAT
RETENTION	Indicator variable equal to 1 when the departing CEO is retained in the three years around the CEO turnover (t-1; t; t+1), 0 otherwise.	Hand-collected from Google searches, company filings, and press releases
CEOTURN	Indicator variable equal to 1 if the CEO turnover event happens in the three years surrounding a CEO turnover (t-1; t; t+1), 0 otherwise.	EXECUCOMP
LOCAL_DENS	Natural logarithm of 1 plus the number of firms within the same year and three-digit zipcode (ADDZIP) of the headquarters of a given firm.	COMPUSTAT
VEGA	Expected dollar change in CEO wealth for a 1% change in stock return volatility (using entire portfolio of options) computed as in Core and Guay (2002) for the sample period 1992–2014.	Lalitha Naveen's website: https://sites.temple.edu/lnaveen/data/.
DELTA	Expected dollar change in CEO wealth for a 1% change in stock sensitivity (Delta) price (using entire portfolio of stocks and options) computed as in Core and Guay (2002) for the sample period 1992–2014.	Lalitha Naveen's website: https://sites.temple.edu/lnaveen/data/.
BLOATED	Indicator variable equal to 1 if net operating assets lie in the first percentile of the sample. Net operating assets are shareholders' equity less cash and marketable securities, plus total debt scaled by lagged sales.	COMPUSTAT
SPREAD	Annual mean monthly daily bid-ask spread, calculated as $100 \times (ask - bid)/[(ask + bid)/2]$.	CRSP
AGE	Age of the outgoing CEO.	EXECUCOMP
SIZE	The natural logarithm of total assets.	COMPUSTAT
BTM	Book value of equity divided by market value of equity.	COMPUSTAT
REVENUE	Revenue scaled by total assets.	COMPUSTAT
INCOME	Net income scaled by total assets.	COMPUSTAT
LEVERAGE	Book value of debt divided by market value of equity.	COMPUSTAT

GROWTH	The percentage change in sales from the previous year.	COMPUSTAT
LOG_AMH	Annual mean of monthly absolute return divided by dollar volume: 1,000,000×|ret|÷ (prc×vol). Regressions use the log of 1 plus this ratio, calculated using monthly CRSP data (variables ret, prc, and vol).	CRSP
TURNOVER	Annual total trading volume divided by shares outstanding.	CRSP
RET	Annual cumulative stock return.	CRSP
INSTOWN	The percentage of shares held by institutional investors during the fiscal period; 0 for any period for which no data are available.	13-F FILINGS
LOG_COVER	Natural logarithm of 1 plus the number of analysts issuing earnings forecasts for any horizon during the fiscal period, 0 for any period for which no data are available.	I/B/E/S
ROA	Income before extraordinary items divided by lagged total assets.	COMPUSTAT
ΔROA	Change in ROA.	COMPUSTAT
DELTA_ADJ	Indicator variable equal to 1 if data on DELTA are missing.	Lalitha Naveen's website: https://sites.temple.edu/lnaveen/data/.
VEGA_ADJ	Indicator variable equal to 1 if data on VEGA are missing.	Lalitha Naveen's website: https://sites.temple.edu/lnaveen/data/.
NET_OPT	Difference between positive and negative words computed as in Louhgran and McDonald (2011). The positive (negative) words are the ratio of the positive (negative) words in the 10-K divided by the total number of words in that document.	WRDS SEC Analytics Suite

Table 2. Descriptive statistics

This table reports the descriptive statistics of the variables included in the model. **Panel A** shows the descriptive statistics for the whole sample. **Panel B** and **Panel C** report those for the firm-year observations when CEOTURN is equal to 0 and 1, and when RETENTION is equal to 0 and 1, respectively. T-tests for the differences in means are also provided. Significance levels: * p-value<10%; ** p-value <5%; *** p-value <1%.

BB_SPI is an indicator variable equal to 1 if a firm reported negative special items exceeding 1 percent of lagged total assets, and 0 otherwise**. BB_ACC** is an indicator variable equal to 1 if: (1) the firm is in the bottom quintile rank of performance-matched discretionary accruals computed as in Kothari et al. (2005), and (2) the firm belongs to the bottom tercile of the basic income rank, and 0 otherwise. Basic income is the income before extraordinary items minus special items. We then rank firms' basic income into terciles at the industry-year level (two-digit SIC code). **RETENTION** is an indicator variable equal to 1 in the three years surrounding an internal CEO turnover (t-1; t; t+1), and 0 otherwise. **CEOTURN** is an indicator variable equal to 1 in the three years surrounding a CEO turnover (t-1; t, and t+1), and 0 otherwise. **LOCAL_DENS** is the natural log of 1 plus the number of firms in the same year and three-digit zipcode of the headquarters of a given firm. **VEGA** is the expected dollar change in CEO wealth for a 1% change in stock return volatility (using entire portfolio of options), computed as in Core and Guay (2002). **DELTA** is the expected dollar change in CEO wealth for a 1% change in stock price sensitivity (delta, using entire portfolio of stocks and options), computed as in Core and Guay (2002). **BLOATED** is an indicator variable equal to 1 if net operating assets lie in the first percentile of the sample. **AGE** is the CEO's age. **SIZE** is the natural log of total assets. **BTM** is book value of equity divided by market value of equity. **REVENUE** is revenue scaled by total assets. **INCOME** is net income scaled by total assets. **LEVERAGE** is book value of debt divided by market value of equity. **GROWTH** is the percentage change in sales from the previous year. **LOG_AMH** is the log of the annual mean of monthly absolute returns divided by dollar volume: 1,000,000× |ret| ÷ (prc×vol); the regressions use the log of 1 plus this ratio. **TURNOVER** is annual total trading volume divided by shares outstanding. **RET** is annual cumulative stock return. **INSTOWN** is the percentage of shares held by institutional investors during the fiscal period and 0 for any period with missing data. **LOG_COVER** is the natural log of 1 plus the number of analysts issuing earnings forecasts for any horizon during the fiscal period and 0 for periods with no data available. **ROA** is the annual ROA**.**

Panel A: Whole sample

Variable	*N*	*Mean*	*25th*	*Med.*	*75th*	*SD.*
BB_SPI	12564	0.314	0	0	1	0.464
BB_ACC	11792	0.068	0	0	0	0.252
RETENTION	12564	0.099	0	0	0	0.298
CEOTURN	12564	0.271	0	0	1	0.444
LOCAL_DENS	12564	2.289	1.609	2.303	3.091	0.939
VEGA	12564	134.659	7.670	47.230	149.793	286.894
DELTA	12564	824.375	56.615	179.898	520.919	8831.607
BLOATED	12564	0.075	0	0	0	0.264
AGE	12374	55.897	51	56	60	7.307
SIZE	12564	7.348	6.255	7.238	8.347	1.552
BTM	12563	0.487	0.262	0.421	0.643	0.700
REVENUE	12564	1.159	0.653	0.973	1.453	0.771
INCOME	12564	0.041	0.020	0.056	0.094	0.138
LEVERAGE	12532	0.371	0.014	0.142	0.347	1.663
GROWTH	12561	0.101	-0.005	0.074	0.166	0.343
LOG_AMH	12543	0.019	0.000	0.001	0.005	0.127
TURNOVER	12564	0.222	0.116	0.176	0.272	0.174
RET	12564	0.074	-0.160	0.016	0.227	0.469
INSTOWN	12564	0.365	0.281	0.390	0.482	0.174
LOG_COVER	12564	1.988	1.386	2.303	2.890	1.147
ROA	12564	0.054	0.022	0.060	0.103	0.127

Panel B: By CEO turnover

	CEOTURN = 0						*CEOTURN = 1*						*Means Diff*
Variable	***N***	***Mean***	***25th***	***Med.***	***75th***	***SD.***	***N***	***Mean***	***25th***	***Med.***	***75th***	***SD.***	
BB_SPI	9160	0.289	0	0	1	0.453	3404	0.380	0	0	1	0.485	**-0.091*** **
BB_ACC	8598	0.065	0	0	0	0.246	3194	0.077	0	0	0	0.267	-0.013
RETENTION	9160	0	0	0	0	0	3404	0.364	0	0	1	0.481	-
LOCAL_DENS	9160	2.275	1.609	2.303	3.045	0.940	3404	2.325	1.609	2.303	3.135	0.933	**-0.05*** **
VEGA	9160	143.857	8.995	52.423	160.702	294.900	3404	109.908	4.907	34.975	115.045	262.596	**33.949*** **
DELTA	9160	945.124	74.288	217.953	607.691	8972.491	3404	499.446	28.718	102.159	295.664	8433.528	**445.678*** **
BLOATED	9160	0.083	0	0	0	0.275	3404	0.055	0	0	0	0.228	**.0280*** **
AGE	9143	56.059	51	56	60	7.211	3231	55.440	50	55	60	7.555	**0.619*** **
SIZE	9160	7.321	6.234	7.191	8.327	1.536	3404	7.421	6.321	7.351	8.403	1.592	**-0.1*** **
BTM	9160	0.477	0.259	0.413	0.626	0.696	3403	0.512	0.267	0.448	0.693	0.710	**-0.035*** **
REVENUE	9160	1.139	0.651	0.955	1.443	0.748	3404	1.212	0.659	1.016	1.502	0.829	**-0.073*** **
INCOME	9160	0.048	0.025	0.058	0.095	0.123	3404	0.022	0.005	0.050	0.091	0.172	**0.026*** **
LEVERAGE	9139	0.362	0.011	0.136	0.339	1.800	3393	0.394	0.023	0.159	0.375	1.217	-0.032
GROWTH	9157	0.112	0.004	0.081	0.176	0.349	3404	0.072	-0.029	0.055	0.137	0.325	**0.072*** **
LOG_AMH	9145	0.017	0.000	0.001	0.005	0.112	3398	0.026	0.000	0.001	0.005	0.161	**-0.009*** **
TURNOVER	9160	0.221	0.116	0.175	0.268	0.174	3404	0.225	0.115	0.180	0.279	0.172	-0.005
RET	9160	0.081	-0.150	0.024	0.228	0.473	3404	0.055	-0.188	-0.006	0.220	0.457	**0.026*** **
INSTOWN	9160	0.372	0.289	0.393	0.484	0.170	3404	0.347	0.250	0.379	0.475	0.183	**0.025*** **
LOG_COVER	9160	1.997	1.386	2.303	2.890	1.135	3404	1.966	1.386	2.303	2.890	1.180	**0.031**
ROA	9160	0.061	0.027	0.063	0.106	0.114	3404	0.035	0.005	0.052	0.097	0.154	**0.026*** **

Panel C: By predecessor CEO not retained versus retained

	RETENTION = 0						***RETENTION = 1***						***Means Diff***
Variable	***N***	***Mean***	***25th***	***Med.***	***75th***	***SD.***	***N***	***Mean***	***25th***	***Med.***	***75th***	***SD.***	
BB_SPI	2166	0.410	0	0	1	0.492	1238	0.328	0	0	1	0.470	**0.082*** **
BB_ACC	2027	0.090	0	0	0	0.286	1167	0.055	0	0	0	0.228	**0.035*** **
LOCAL_DENS	2166	2.336	1.609	2.398	3.135	0.924	1238	2.307	1.609	2.303	3.135	0.948	0.029
VEGA	2166	104.699	3.753	31.589	107.621	220.648	1238	119.020	8.501	40.573	136.358	323.049	-14.321
DELTA	2166	270.920	20.316	82.097	251.187	613.800	1238	899.275	47.862	141.665	403.052	13955.400	**-628.356** **
BLOATED	2166	0.053	0	0	0	0.223	1238	0.060	0	0	0	0.237	-0.007
AGE	2030	55.405	50	55	60	7.555	1201	55.500	50	55	61	7.559	-.095
SIZE	2166	7.352	6.176	7.246	8.325	1.637	1238	7.541	6.475	7.539	8.506	1.502	**-0.19*** **
BTM	2165	0.532	0.274	0.467	0.729	0.831	1238	0.478	0.262	0.416	0.641	0.420	**0.054** **
REVENUE	2166	1.212	0.669	1.021	1.505	0.813	1238	1.213	0.642	1.008	1.495	0.856	-0.001
INCOME	2166	0.010	-0.007	0.045	0.084	0.169	1238	0.042	0.023	0.059	0.100	0.175	**-.032*** **
LEVERAGE	2162	0.445	0.028	0.174	0.394	1.452	1231	0.306	0.018	0.130	0.338	0.605	**0.139*** **
GROWTH	2166	0.062	-0.041	0.047	0.134	0.255	1238	0.088	-0.005	0.066	0.142	0.420	**-0.026** **
LOG_AMH	2161	0.031	0.000	0.001	0.006	0.186	1237	0.017	0.000	0.001	0.003	0.103	**0.015** **
TURNOVER	2166	0.227	0.113	0.179	0.279	0.179	1238	0.222	0.120	0.180	0.281	0.158	0.005
RET	2166	0.048	-0.205	-0.011	0.219	0.476	1238	0.066	-0.164	-0.003	0.221	0.420	-0.018
INSTOWN	2166	0.339	0.237	0.370	0.468	0.187	1238	0.362	0.278	0.392	0.483	0.177	**-0.024*** **
LOG_COVER	2166	1.906	1.099	2.197	2.833	1.175	1238	2.071	1.386	2.398	2.944	1.183	**-0.166*** **
ROA	2166	0.024	-0.006	0.047	0.089	0.147	1238	0.054	0.022	0.063	0.108	0.165	**-0.03*** **

Table 3. Pearson Correlation Matrix

This table reports the pairwise Pearson correlation matrix for the variables in the model. Significance levels: * p-value<10%. **BB_SPI** is an indicator variable equal to 1 if a firm reported negative special items exceeding 1 percent of lagged total assets, and 0 otherwise**. BB_ACC** is an indicator variable equal to 1 if: (1) the firm is in the bottom quintile rank of performance-matched discretionary accruals computed as in Kothari et al. (2005), and (2) the firm belongs to the bottom tercile of the basic income rank, and 0 otherwise. Basic income is the income before extraordinary items minus special items. We then rank firms' basic income into terciles at the industry-year level (two-digit SIC code). **RETENTION** is an indicator variable equal to 1 in the three years surrounding an internal CEO turnover (t-1; t; t+1), and 0 otherwise. **CEOTURN** is an indicator variable equal to 1 in the three years surrounding a CEO turnover (t-1; t, and t+1), and 0 otherwise. **LOCAL_DENS** is the natural log of 1 plus the number of firms in the same year and three-digit zipcode of the headquarters of a given firm. **VEGA** is the expected dollar change in CEO wealth for a 1% change in stock return volatility (using entire portfolio of options), computed as in Core and Guay (2002). **DELTA** is the expected dollar change in CEO wealth for a 1% change in stock price sensitivity (delta, using entire portfolio of stocks and options), computed as in Core and Guay (2002). **BLOATED** is an indicator variable equal to 1 if net operating assets lie in the first percentile of the sample. **AGE** is the CEO's age. **SIZE** is the natural log of total assets. **BTM** is book value of equity divided by market value of equity. **REVENUE** is revenue scaled by total assets. **INCOME** is net income scaled by total assets. **LEVERAGE** is book value of debt divided by market value of equity. **GROWTH** is the percentage change in sales from the previous year. **LOG_AMH** is the log of the annual mean of monthly absolute returns divided by dollar volume: 1,000,000× |ret| ÷ (prc×vol); the regressions use the log of 1 plus this ratio. **TURNOVER** is annual total trading volume divided by shares outstanding. **RET** is annual cumulative stock return. **INSTOWN** is the percentage of shares held by institutional investors during the fiscal period and 0 for any period with missing data **LOG_COVER** is the natural log of 1 plus the number of analysts issuing earnings forecasts for any horizon during the fiscal period and 0 for periods with no data available. **ROA** is the annual ROA**.**

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
(1) BB_SPI	1.000																				
(2) BB_ACC	0.042*	1.000																			
(3) RETENTION	0.010	-0.017*	1.000																		
(4) CEOTURN	0.087*	0.022*	0.542*	1.000																	
(5) LOCAL_DENS	0.012	0.002	0.006	0.024*	1.000																
(6) VEGA	-0.002	-0.085*	-0.018*	-0.053*	0.064*	1.000															
(7) DELTA	-0.007	-0.017*	0.003	-0.022*	0.036*	0.550*	1.000														
(8) BLOATED	0.033*	-0.020*	-0.019*	-0.046*	-0.021*	-0.034*	-0.011	1.000													
(9) AGE	-0.039*	-0.042*	-0.018*	-0.037*	-0.007	0.045*	0.051*	-0.005	1.000												
(10) SIZE	-0.010	-0.220*	0.041*	0.028*	0.044*	0.442*	0.106*	-0.011	0.068*	1.000											
(11) BTM	0.047*	0.043*	-0.004	0.022*	0.009	-0.077*	-0.022*	0.014	0.038*	-0.054*	1.000										
(12) REVENUE	-0.078*	0.025*	0.023*	0.042*	-0.084*	-0.086*	-0.028*	-0.116*	0.016*	-0.091*	-0.007	1.000									
(13) INCOME	-0.268*	-0.170*	0.003	-0.083*	-0.043*	0.115*	0.036*	0.040*	0.022*	0.196*	-0.099*	0.065*	1.000								
(14) LEVERAGE	0.082*	0.021*	-0.013	0.009	-0.031*	-0.039*	-0.011	0.000	0.012	0.050*	-0.309*	0.009	-0.147*	1.000							
(15) GROWTH	-0.052*	0.027*	-0.012	-0.052*	-0.006	-0.005	0.009	0.134*	-0.017*	-0.029*	-0.063*	-0.043*	0.114*	-0.038*	1.000						
(16) LOG_AMH	0.034*	0.103*	-0.006	0.032*	0.008	-0.065*	-0.013	-0.008	-0.018*	-0.237*	0.092*	0.058*	-0.188*	0.063*	-0.069*	1.000					
(17) TURNOVER	0.019*	-0.006	0.000	0.011	0.055*	-0.041*	-0.016*	0.019*	-0.075*	0.096*	-0.005	-0.032*	-0.043*	0.105*	0.082*	-0.111*	1.000				
(18) RET	0.000	-0.014	-0.006	-0.025*	-0.009	-0.021*	-0.002	0.004	-0.017*	-0.019*	0.027*	0.033*	0.003	0.239*	-0.017*	0.055*	0.035*	1.000			
(19) INSTOWN	-0.030*	-0.082*	-0.005	-0.062*	0.012	0.001	-0.018*	0.012	-0.017*	0.056*	0.004	-0.036*	0.153*	-0.076*	0.028*	-0.188*	0.146*	-0.018*	1.000		
(20) LOG_COVER	-0.057*	-0.096*	0.024*	-0.012	0.024*	0.190*	0.066*	-0.008	-0.021*	0.238*	-0.067*	-0.057*	0.121*	-0.058*	0.038*	-0.148*	0.119*	-0.022*	0.174*	1.000	
(21) ROA	-0.268*	-0.184*	0.000	-0.091*	-0.040*	0.110*	0.041*	0.077*	0.010	0.160*	-0.119*	0.075*	0.887*	-0.140*	0.143*	-0.168*	0.003	0.013	0.143*	0.126*	1.000

Table 4. Probability of a big bath around CEO turnover

This table presents the results of the 3SLS model estimation regressing big bath on CEO turnover and retention. **Panel A** and **Panel B** present the results for BB_SPI and BB_ACC, respectively.

BB_SPI is an indicator variable equal to 1 if a firm reported negative special items exceeding 1 percent of lagged total assets, and 0 otherwise**. BB_ACC** is an indicator variable equal to 1 if: (1) the firm is in the bottom quintile rank of performance-matched discretionary accruals computed as in Kothari et al. (2005), and (2) the firm belongs to the bottom tercile of the basic income rank, and 0 otherwise. Basic income is the income before extraordinary items minus special items. We then rank firms' basic income into terciles at the industry-year level (two-digit SIC code). **RETENTION** is an indicator variable equal to 1 in the three years surrounding an internal CEO turnover (t-1; t; t+1), and 0 otherwise. **CEOTURN** is an indicator variable equal to 1 in the three years surrounding a CEO turnover (t-1; t, and t+1), and 0 otherwise. **LOCAL_DENS** is the natural log of 1 plus the number of firms in the same year and three-digit zipcode of the headquarters of a given firm. **INSTOWN** is the percentage of shares held by institutional investors during the fiscal period and 0 for any period with missing data. **GROWTH** is the percentage change in sales from the previous year. **RET** is annual cumulative stock return. **SIZE** is the natural log of total assets. **ROA** is the annual ROA**. ROA_SQUARED** is the square of **ROA. VEGA** is the expected dollar change in CEO wealth for a 1% change in stock return volatility (using entire portfolio of options), computed as in Core and Guay (2002). **DELTA** is the expected dollar change in CEO wealth for a 1% change in stock price sensitivity (delta, using entire portfolio of stocks and options), computed as in Core and Guay (2002). **AGE** is the CEO's age. **BLOATED** is an indicator variable equal to 1 if net operating assets lie in the first percentile of the sample. **BTM** is book value of equity divided by market value of equity. **REVENUE** is revenue scaled by total assets. **INCOME** is net income scaled by total assets. **LEVERAGE** is book value of debt divided by market value of equity. **LOG_AMH** is the log of the annual mean of monthly absolute returns divided by dollar volume: 1,000,000× |ret| ÷ (prc×vol); the regressions use the log of 1 plus this ratio. **TURNOVER** is annual total trading volume divided by shares outstanding. **LOG_COVER** is the natural log of 1 plus the number of analysts issuing earnings forecasts for any horizon during the fiscal period and 0 for periods with no data available. **BB_SPI**, **BB_ACC, RETENTION**, and **CEOTURN** are measured at time t, while all other variables are measured at t-1.

Standard errors are reported in parentheses**.** Significance levels: * p-value<10%; ** p-value <5%; *** p-value <1%.

Panel A: BB_SPI as the dependent variable

Variable	***(1)*** ***CEOTURN***	***(2)*** ***RETENTION***	***(3)*** ***BB_SPI***
RETENTION	-	-	**-0.467*** **
			(0.141)
CEOTURN	-	-	**0.576*** **
			(0.098)
LOCAL_DENS	**0.01*** **	-	-
	(0.004)		
INSTOWN	-0.117***	-	0.029
	(0.02)		(0.028)
GROWTH	-0.008	-0.001	-0.001
	(0.005)	(0.003)	(0.006)
RET	-0.043***	-0.002	-0.069***
	(0.008)	(0.005)	(0.01)
SIZE	0.016***	0.009***	0.009***
	(0.003)	(0.002)	(0.003)
ROA	-0.264***	-0.029	-
	(0.031)	(0.021)	
ROA_SQUARED	-	0.032**	-
		(0.016)	
VEGA	-	**-0.0001***	-
		(0.0001)	
DELTA	-	**0.0001*** **	-
		(0.0001)	
AGE	-	0.002***	-0.003***
		(0.0003)	(0.001)
BLOATED	-	-	0.002
			(0.017)
BTM	-	-	0.04***
			(0.007)
REVENUE	-	-	-0.012*
			(0.007)
INCOME	-	-	-0.174***
			(0.036)
LEVERAGE	-	-	0.015***
			(0.003)
LOG_AMH	-	-	-0.033
			(0.032)
TURNOVER	-	-	0.12***
			(0.028)
LOG_COVER	-	-	-0.014***
			(0.004)
Intercept	0.158**	-0.037	0.523***
	(0.072)	(0.06)	(0.086)
Observations	*12,540*	*12,540*	*12,540*
Year F.E.	*Yes*	*Yes*	*Yes*
Industry F.E.	*Yes*	*Yes*	*Yes*
State F.E.	*No*	*Yes*	*No*
Pseudo R-squared	*0.0259*	*0.0312*	*-0.0509*

Panel B: BB_ACC as the dependent variable

	(1)	***(2)***	***(3)***
Variable	***CEOTURN***	***RETENTION***	***BB_ACC***
RETENTION	-	-	**-0.221*** **
			(0.081)
CEOTURN	-	-	**0.088***
			(0.052)
LOCAL_DENS	**0.012*** **	-	-
	(0.004)		
INSTOWN	-0.12***	-	-0.054***
	(0.02)		(0.015)
GROWTH	-0.007	-0.0001	0.002
	(0.005)	(0.003)	(0.003)
RET	-0.046***	-0.0005	-0.016***
	(0.009)	(0.006)	(0.006)
SIZE	0.017***	0.009***	-0.036***
	(0.003)	(0.002)	(0.002)
ROA	-0.259***	-0.025	-
	(0.031)	(0.021)	
ROA_SQUARED	-	0.029*	-
		(0.016)	
VEGA	-	**-0.0001** **	-
		(0.0001)	
DELTA	-	**0.0001*** **	-
		(0.0001)	
AGE	-	0.002***	-0.001
		(0.0003)	(0.0004)
BLOATED	-	-	-0.002
			(0.009)
BTM	-	-	0.024***
			(0.004)
REVENUE	-	-	0.001
			(0.004)
INCOME	-	-	-0.146***
			(0.02)
LEVERAGE	-	-	0.012***
			(0.002)
LOG_AMH	-	-	0.015
			(0.018)
TURNOVER	-	-	0.039**
			(0.016)
LOG_COVER	-	-	-0.001
			(0.002)
Intercept	0.234***	-0.037	0.308***
	(0.078)	(0.066)	(0.049)
Observations	*11,768*	*11,768*	*11,768*
Year F.E.	*Yes*	*Yes*	*Yes*
Industry F.E.	*Yes*	*Yes*	*Yes*
State F.E.	*No*	*Yes*	*No*
Pseudo R-squared	*0.0243*	*0.0283*	*0.0468*

Table 5. Opportunistic and non-opportunistic big baths

This table presents the results of the 3SLS model estimation regressing opportunistic and non-opportunistic big baths on CEO turnover and retention. Columns 1 2 report the results for BB_SPI for non-opportunistic and opportunistic big baths, respectively. Columns 3 and 4 report the results for BB_ACC for non-discretionary big baths and opportunistic big baths, respectively.

BB_SPI is an indicator variable equal to 1 if a firm reported negative special items exceeding 1 percent of lagged total assets, and 0 otherwise**. BB_ACC** is an indicator variable equal to 1 if: (1) the firm is in the bottom quintile rank of performance-matched discretionary accruals computed as in Kothari et al. (2005), and (2) the firm belongs to the bottom tercile of the basic income rank, and 0 otherwise. Basic income is the income before extraordinary items minus special items. We then rank firms' basic income into terciles at the industry-year level (two-digit SIC code). **BLOATED** is an indicator variable equal to 1 if net operating assets lie in the first percentile of the sample. **RETENTION** is an indicator variable equal to 1 in the three years surrounding an internal CEO turnover (t-1; t; t+1), and 0 otherwise. **CEOTURN** is an indicator variable equal to 1 in the three years surrounding a CEO turnover (t-1; t, and t+1), and 0 otherwise. **AGE** is the CEO's age. **SIZE** is the natural log of total assets. **BTM** is book value of equity divided by market value of equity. **REVENUE** is revenue scaled by total assets. **INCOME** is net income scaled by total assets. **LEVERAGE** is book value of debt divided by market value of equity. **GROWTH** is the percentage change in sales from the previous year. **LOG_AMH** is the log of the annual mean of monthly absolute returns divided by dollar volume: 1,000,000× |ret| ÷ (prc×vol); the regressions use the log of 1 plus this ratio. **TURNOVER** is annual total trading volume divided by shares outstanding. **RET** is annual cumulative stock return **INSTOWN** is the percentage of shares held by institutional investors during the fiscal period and 0 for any period with missing data. **LOG_COVER** is the natural log of 1 plus the number of analysts issuing earnings forecasts for any horizon during the fiscal period and 0 for periods with no data available. **BB_SPI**, **BB_ACC, RETENTION,** and **CEOTURN** are measured at time t, while all other variables are measured at t-1.

Standard errors are reported in parentheses**.** Significance levels: * p-value<10%; ** p-value <5%; *** p-value <1%.

Variable	*(1)* ***BB_SPI***	*(2)* ***BB_SPI***	*(3)* ***BB_ACC***	*(4)* ***BB_ACC***
Nature of big bath	***NON-OPPORTUNISTIC (BLOATED=1)***	***OPPORTUNISTIC (BLOATED=0)***	***NON-OPPORTUNISTIC (BLOATED=1)***	***OPPORTUNISTIC (BLOATED=0)***
RETENTION	**-0.152**	**-0.411*****	**-0.08**	**-0.194****
	(0.282)	**(0.143)**	**(0.15)**	**(0.084)**
CEOTURN	**-0.275***	**0.551*****	**0.019**	**0.087***
	(0.151)	**(0.098)**	**(0.084)**	**(0.051)**
AGE	-0.005**	-0.003***	-0.002*	-0.001
	(0.002)	(0.001)	(0.001)	(0.0005)
SIZE	0.019	0.008**	-0.035***	-0.036***
	(0.014)	(0.004)	(0.008)	(0.002)
BTM	0.071	0.040***	-0.036	0.025***
	(0.057)	(0.007)	(0.031)	(0.004)
REVENUE	-0.01	-0.009	0.005	0.001
	(0.043)	(0.007)	(0.023)	(0.004)
INCOME	-0.703***	-0.162***	-0.574***	-0.141***
	(0.24)	(0.037)	(0.134)	(0.020)
LEVERAGE	0.088**	0.015***	0.0002	0.012***
	(0.04)	(0.003)	(0.022)	(0.002)
GROWTH	-0.008	-0.001	0.021	0.001
	(0.036)	(0.006)	(0.019)	(0.003)
LOG_AMH	-0.050	-0.032	0.046	0.012
	(0.174)	(0.033)	(0.103)	(0.018)
TURNOVER	0.11	0.125***	0.019	0.037**
	(0.097)	(0.029)	(0.053)	(0.017)
RET	-0.139***	-0.068***	-0.009	-0.017***
	(0.036)	(0.01)	(0.02)	(0.006)
INSTOWN	0.083	0.017	-0.115**	-0.046***
	(0.095)	(0.029)	(0.0529	(0.016)
LOG_COVER	0.002	-0.015***	0.014*	-0.002
	(0.015)	(0.004)	(0.008)	(0.002)
Intercept	0.649***	0.523***	0.392***	0.304***
	(0.212)	(0.087)	(0.116)	(0.049)
Observations	*845*	11,695	816	10,952
Year F.E.	*Yes*	*Yes*	Yes	Yes
Industry F.E.	*Yes*	*Yes*	Yes	Yes
Pseudo R-squared	*0.091*	*-0.035*	*0.159*	0.056

Table 6. Effect of a big bath on information asymmetry

This table presents the results of the 3SLS model estimation regressing SPREAD on big bath for opportunistic big baths (BLOATED=0). Columns 1 2 report the results for BB_SPI when the CEO is and is not retained, respectively. Columns 3 and 4 report the results for BB_ACC when the CEO is retained and not retained, respectively.

SPREAD is the annual mean monthly daily bid-ask spread, calculated as 100 × (ask − bid)/[(ask + bid)/2]. **BB_SPI** is an indicator variable equal to 1 if a firm reported negative special items exceeding 1 percent of lagged total assets, and 0 otherwise**. BB_ACC** is an indicator variable equal to 1 if: (1) the firm is in the bottom quintile rank of performance-matched discretionary accruals computed as in Kothari et al. (2005), and (2) the firm belongs to the bottom tercile of the basic income rank, and 0 otherwise. Basic income is the income before extraordinary items minus special items. We then rank firms' basic income into terciles at the industry-year level (two-digit SIC code). **SIZE** is the natural log of total assets. **BTM** is book value of equity divided by market value of equity. **INCOME** is net income scaled by total assets. **LEVERAGE** is book value of debt divided by market value of equity. **RET** is annual cumulative stock return. **ΔROA** is change in ROA**. INSTOWN** is the percentage of shares held by institutional investors during the fiscal period and 0 for any period with missing data. **LOG_COVER** is the natural log of 1 plus the number of analysts issuing earnings forecasts for any horizon during the fiscal period and 0 for periods with no data available. **VEGA** is the expected dollar change in CEO wealth for a 1% change in stock return volatility (using entire portfolio of options), computed as in Core and Guay (2002). **DELTA** is the expected dollar change in CEO wealth for a 1% change in stock price sensitivity (delta, using entire portfolio of stocks and options), computed as in Core and Guay (2002). **VEGA_ADJ** is an indicator variable equal to 1 if data on VEGA are missing. **DELTA_ADJ** is an indicator variable equal to 1 if data on DELTA are missing. **BB_SPI**, **BB_ACC, SIZE, BTM, INCOME, LEVERAGE, RET, ΔROA, INSTOWN, COVERAGE, VEGA, DELTA, VEGA_ADJ,** and **DELTA_ADJ** are measured at time t; **SPREAD** is measured at t+1; and all other variables are measured at t-1.

Standard errors are reported in parentheses**.** Significance levels: * p-value<10%; ** p-value <5%; *** p-value <1%.

Variable	*(1)* *SPREAD*	*(2)* *SPREAD*	*(3)* *SPREAD*	*(4)* *SPREAD*
CEO Retention (RETENTION = 1)	***YES***	***NO***	***YES***	***NO***
BB_SPI	**-0.003*** **	**0.002** **	-	-
	(0.001)	**(0.001)**		
BB_ACC	-	-	**-0.005**	**0.006*** **
			(0.003)	**(0.002)**
SIZE	-0.001***	-0.001***	-0.001***	-0.0004***
	(0.0001)	(0.0001)	(0.0002)	(0.0001)
BTM	0.001***	0.001***	0.001***	0.001***
	(0.0003)	(0.0001)	(0.0003)	(0.0001)
INCOME	-0.003***	-0.003***	-0.002***	-0.003***
	(0.001)	(0.001)	(0.001)	(0.0005)
LEVERAGE	0.001***	0.0001***	0.001***	0.0002***
	(0.0002)	(0.0001)	(0.0003)	(0.0001)
RET	-0.0003*	-0.0002**	-0.0004**	-0.0004***
	(0.0002)	(0.0001)	(0.0002)	(0.0001)
ΔROA	0.0001	-0.0001	0.0001	-0.0001
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
INSTOWN	-0.004***	-0.003***	-0.004***	-0.003***
	(0.0007)	(0.0002)	(0.001)	(0.0002)
LOG_COVER	-0.0003***	-0.0001***	-0.0003**	-0.0001***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
VEGA	0.0001**	0.0001***	0.0001**	0.0001***
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
DELTA	-0.0001	-0.0001*	-0.0001	-0.0001*
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
VEGA_ADJ	0.0002	0.0002	0.0001	0.0001
	(0.002)	(0.0004)	(0.002)	(0.0004)
DELTA_ADJ	-0.0003	-0.0001	-0.0002	-0.0001
	(0.002)	(0.0004)	(0.002)	(0.0004)
Intercept	0.022***	0.009***	0.022***	0.008***
	(0.002)	(0.001)	(0.002)	(0.001)
Observations	*1,068*	*8,985*	1,004	8,404
Year F.E.	*Yes*	*Yes*	Yes	Yes
Industry F.E.	*Yes*	*Yes*	Yes	Yes
Pseudo R-squared	*0.224*	*0.149*	*0.203*	0.068

Table 7. Narratives

This table presents the results of the 3SLS model estimation regressing narratives on CEO turnover and retention (Column 1) and of a linear model with multiple levels of fixed effects regressing narattives on big bath (Column 2 for BB_SPI and Column 3 for BB_ACC). **NET_OPT** is the difference between positive and negative words in the 10-K computed as in Louhgran and McDonald (2011). The positive (negative) words are the ratio of the positive (negative) words divided by the total number of words. **BB_SPI** is an indicator variable equal to 1 if a firm reported negative special items exceeding 1 percent of lagged total assets, and 0 otherwise**. BB_ACC** is an indicator variable equal to 1 if: (1) the firm is in the bottom quintile rank of performance-matched discretionary accruals computed as in Kothari et al. (2005), and (2) the firm belongs to the bottom tercile of the basic income rank, and 0 otherwise. Basic income is the income before extraordinary items minus special items. We then rank firms' basic income into terciles at the industry-year level (two-digit SIC code). **RETENTION** is an indicator variable equal to 1 in the three years surrounding an internal CEO turnover (t-1; t; t+1), and 0 otherwise. **CEOTURN** is an indicator variable equal to 1 in the three years surrounding a CEO turnover (t-1; t, and t+1), and 0 otherwise. **BLOATED** is an indicator variable equal to 1 if net operating assets lie in the first percentile of the sample. **AGE** is the CEO's age. **SIZE** is the natural log of total assets. **BTM** is book value of equity divided by market value of equity. **REVENUE** is revenue scaled by total assets. **INCOME** is net income scaled by total assets. **LEVERAGE** is book value of debt divided by market value of equity. **GROWTH** is the percentage change in sales from the previous year. **LOG_AMH** is the log of the annual mean of monthly absolute returns divided by dollar volume: 1,000,000× |ret| ÷ (prc×vol); the regressions use the log of 1 plus this ratio. **TURNOVER** is annual total trading volume divided by shares outstanding. **RET** is annual cumulative stock return. **INSTOWN** is the percentage of shares held by institutional investors during the fiscal period and 0 for any period with missing data. **LOG_COVER** is the natural log of 1 plus the number of analysts issuing earnings forecasts for any horizon during the fiscal period and 0 for periods with no data available. **BB_SPI*RETENTION** is an interaction term between **BB_SPI** and **RETENTION. BB_SPI*CEOTURN** is an interaction term between **BB_SPI** and **CEOTURN. BB_ACC*RETENTION** is an interaction term between **BB_ACC** and **RETENTION. BB_ACC*CEOTURN** is an interaction term between **BB_ACC** and **CEOTURN. NETOPT, BB_SPI**, **BB_ACC, RETENTION,** and **CEOTURN** are measured at time t, while all other variables are measured at t-1.
Standard errors are reported in parentheses**.** Significance levels: * p-value<10%; ** p-value <5%; *** p-value <1%.

	(1)	*(2)*	*(3)*
Variable	***NET_OPT***	***NET_OPT***	***NET_OPT***
BB_SPI	-	**-0.001*** **	-
		(0.0001)	
BB_ACC	-	-	**-0.001*** **
			(0.0002)
RETENTION	**0.007*** **	**0.0002**	**0.0004** **
	(0.001)	**(0.0002)**	**(0.0002)**
CEOTURN	**0.004*** **	**-0.0002**	**-0.001*** **
	(0.001)	**(0.0001)**	**(0.0001)**
BLOATED	0.001***	0.001***	0.001***
	(0.0002)	(0.0001)	(0.0002)
AGE	-0.0001*	0.0001**	0.0001*
	(0.0001)	(0.0001)	(0.0001)
SIZE	-0.0001***	0.0001	-0.0001
	(0.0001)	(0.0001)	(0.0001)
BTM	-0.001***	-0.0004***	-0.0005***
	(0.0001)	(0.0001)	(0.0002)
REVENUE	-0.0002***	-0.0001**	-0.0002***
	(0.0001)	(0.0001)	(0.0001)
INCOME	0.005***	0.003***	0.003***
	(0.0004)	(0.0004)	(0.0004)
LEVERAGE	-0.0001***	-0.0001***	-0.0001**
	(0.0001)	(0.0001)	(0.0001)
GROWTH	0.0003***	0.0002***	0.0002**
	(0.0001)	(0.0001)	(0.0001)
LOG_AMH	0.0001	0.0001	0.0001
	(0.0003)	(0.0003)	(0.0003)
TURNOVER	-0.005***	-0.005***	-0.005***
	(0.0003)	(0.0003)	(0.0003)
RET	0.001***	0.0005***	0.001***
	(0.0001)	(0.0001)	(0.0001)
INSTOWN	0.001***	0.001**	0.001**
	(0.0003)	(0.0002)	(0.0002)
LOG_COVER	0.0001***	0.0001	0.0001
	(0.0001)	(0.0001)	(0.0001)
BB_SPI*RETENTION	-	**0.0005**	-
		(0.0003)	
BB_SPI*CEOTURN	-	**-0.001*** **	-
		(0.0002)	
BB_ACC*RETENTION	-	-	**-0.0002**
			(0.001)
BB_ACC*CEOTURN	-	-	**-0.0002**
			(0.0004)
Intercept	-0.009***	-0.008***	-0.008***
	(0.001)	(0.0004)	(0.0004)
Observations	*12,390*	12,244	11,508
Year F.E.	*Yes*	*Yes*	Yes
Industry F.E.	*Yes*	*Yes*	Yes
Pseudo R-squared	*-0.284*	*0.267*	*0.2033*

Table 8. Big bath and turnover timing

This table presents the results of the 3SLS model estimation regressing big bath on CEO turnover and retention. Columns 1 and 2 report the results for BB_SPI and BB_ACC, respectively.

BB_SPI is an indicator variable equal to 1 if a firm reported negative special items exceeding 1 percent of lagged total assets, and 0 otherwise**. BB_ACC** is an indicator variable equal to 1 if: (1) the firm is in the bottom quintile rank of performance-matched discretionary accruals computed as in Kothari et al. (2005), and (2) the firm belongs to the bottom tercile of the basic income rank, and 0 otherwise. Basic income is the income before extraordinary items minus special items. We then rank firms' basic income into terciles at the industry-year level (two-digit SIC code). **RETENTION_T** is an indicator variable equal to 1 if a CEO turnover occurs at time (t) and the CEO remains in the firm, and 0 otherwise. **CEOTURN_T** is an indicator variable equal to 1 if a CEO turnover occurs at time (t) and the CEO leaves the firm, and 0 otherwise. **BLOATED** is an indicator variable equal to 1 if net operating assets lie in the first percentile of the sample. **AGE** is the CEO's age. **SIZE** is the natural log of total assets. **BTM** is book value of equity divided by market value of equity. **REVENUE** is revenue scaled by total assets. **INCOME** is net income scaled by total assets. **LEVERAGE** is book value of debt divided by market value of equity. **GROWTH** is the percentage change in sales from the previous year. **LOG_AMH** is the log of the annual mean of monthly absolute returns divided by dollar volume: 1,000,000× |ret| ÷ (prc×vol); the regressions use the log of 1 plus this ratio. **TURNOVER** is annual total trading volume divided by shares outstanding. **RET** is annual cumulative stock return. **INSTOWN** is the percentage of shares held by institutional investors during the fiscal period and 0 for any period with missing data. **LOG_COVER** is the natural log of 1 plus the number of analysts issuing earnings forecasts for any horizon during the fiscal period and 0 for periods with no data available. **RETENTION_T** and **CEOTURN_T** are measured at time t-1, t, and t+1, while all other variables are measured at t-1.

Standard errors are reported in parentheses**.** Significance levels: * p-value<10%; ** p-value <5%; *** p-value <1%.

	(1)	*(2)*
Variable	***BB_SPI***	***BB_ACC***
RETENTION_$_{t-1}$	**0.018**	**-0.015**
	(0.032)	**(0.018)**
RETENTION_$_{t}$	**-0.909****	**-0.793*****
	(0.397)	**(0.236)**
RETENTION_ $_{t+1}$	**-0.066***	**-0.029**
	(0.036)	**(0.021)**
CEOTURN_ $_{t-1}$	**0.041***	**0.011**
	(0.022)	**(0.012)**
CEOTURN_ $_{t}$	**0.892*****	**0.100**
	(0.217)	**(0.121)**
CEOTURN_ $_{t+1}$	**0.062*****	**0.021***
	(0.022)	**(0.012)**
BLOATED	-0.012	-0.001
	(0.018)	(0.01)
AGE	-0.003**	-0.0002
	(0.002)	(0.001)
SIZE	0.011***	-0.035***
	(0.004)	(0.002)
BTM	0.042***	0.021***
	(0.008)	(0.005)
REVENUE	-0.014*	0.003
	(0.008)	(0.004)
INCOME	-0.176***	-0.155***
	(0.044)	(0.024)
LEVERAGE	0.013***	0.009***
	(0.003)	(0.003)
GROWTH	0.005	0.004
	(0.007)	(0.004)
LOG_AMH	-0.059	0.003
	(0.038)	(0.022)
TURNOVER	0.11***	0.034*
	(0.033)	(0.02)
RET	-0.068***	-0.013**
	(0.011)	(0.006)
INSTOWN	-0.004	-0.04**
	(0.029)	(0.016)
LOG_COVER	-0.017***	-0.002
	(0.004)	(0.002)
Intercept	0.548***	0.335***
	(0.116)	(0.068)
Observations	*9,699*	9,088
Year F.E.	*Yes*	*Yes*
Industry F.E.	*Yes*	*Yes*
Pseudo R-squared	*-0.067*	*-0.217*