

Pessimistic Earnings Guidance before Annual Incentive Plan Approval

Abstract:

Corporate boards determine the performance metrics for CEOs' annual incentive plans (AIPs) in compensation committee meetings at the beginning of each fiscal year. We provide evidence that management tends to issue pessimistic earnings guidance ahead of these meetings ("event-window guidance"), and that this pessimistic guidance leads analysts to lower their earnings forecasts, which commonly serve as an anchor for setting AIP performance goals. This pessimism in event-window earnings guidance is present when performance goals are linked to measures such as Earnings-Per-Share (EPS), but not when they are linked to revenue, providing further evidence that pessimistic event-window guidance is motivated by a desire to manipulate executive compensation. In the cross section, pessimistic event-window guidance is more pronounced when analyst forecasts are optimistic, when the EPS performance target was missed in the previous year, when the target payout amount is large, or when shareholders actively monitor the firm. Lastly, pessimism in event-window guidance is associated with higher bonus payouts. Overall, our study sheds light on the strategic role of management disclosure policy in the executive compensation process.

Keywords: Annual Incentive Plan (bonus contracts), Performance Targets, Management Earnings Guidance

JEL Codes: G34, M41, M52

I. Introduction

Annual incentive plans (*AIPs*, also referred to as *annual bonus plans*) have been widely used at large public companies in the United States to incentivize corporate executives to improve short-term performance (Murphy 1999). Bonus payouts have accounted for approximately 20% of total CEO pay in recent years (see Figure 1). Failure to meet performance goals laid out in AIPs adversely affects not only bonus payouts but also corporate boards' CEO retention decisions (Bennett, Bettis, Gopalan, and Milbourn 2017).¹ However, little is known about the process corporate boards follow to set AIP performance goals. Our study attempts to investigate the strategic role of management disclosure policy in this process.

On December 15, 2006, the Securities and Exchange Commission (SEC), aiming to provide investors with a clearer and more complete picture of the compensation earned by a company's named executive officers (NEOs), enhanced executive compensation disclosure requirements for public companies. In particular, the new rules require companies to disclose the details of awards granted to each NEO (including the CEO) under an incentive plan or otherwise contingent on the achievement of performance goals, including estimated future (minimum, target, and maximum) payouts for (threshold, target and stretch) performance for both equity incentive plans and AIPs.²

We argue that the enhanced disclosure rules allow shareholders to scrutinize executive compensation structures more rigorously, which may force corporate boards to defend their choice of performance goals for AIPs. In response, boards might rely on arguably more objective external

¹ Bennett et al. (2017) provide evidence that the probability of a forced CEO turnover more than doubles if a firm has missed a performance target (of an accounting-based absolute performance measure) in the previous year, after controlling for other known determinants of forced CEO turnovers.

² More details on the enhanced disclosure requirements are available at <https://www.sec.gov/rules/final/2006/33-8732a.pdf>.

benchmarks to determine performance goals. In this study, we focus on firms that use earnings-per-share (EPS) or net income as a performance measure in AIPs. We make this choice for two reasons. First and foremost, it is common for CEO AIPs to use EPS to measure performance (Bennett et al. 2017).^{3,4} Second, the natural external benchmarks for corporate boards are the prevailing consensus analyst earnings forecasts. For example, CFOs consider the consensus analyst estimate to be one of the two most important earnings benchmarks (Graham, Harvey and Rajgopal 2005).⁵ Similarly, corporate boards refer to the consensus analyst estimate as one of the most common benchmarks used to set performance goals in executive compensation (Burchman and Emanuel 2015). By focusing on firms with EPS-based AIPs, we can draw a direct link between management disclosure policy and managerial compensation.

Our empirical prediction is that if corporate boards rely on the prevailing consensus analyst forecasts to determine CEO performance targets, we expect managers to issue more pessimistic earnings guidance in the period immediately before board compensation meetings (“event-window guidance”), compared to earnings guidance issued in other periods (“non-event-window guidance”). We define the event window as the 90 days before the approval of an AIP by a compensation committee. We define event-window earnings guidance as the most recent management earnings guidance issued during this event window. We presume that managers release pessimistic guidance to walk down analyst earnings forecasts. Based on this lower performance benchmark, corporate boards are likely to set lower EPS performance targets, which are easier for managers to meet or beat.

³ In Bennett et al. (2017), 40% of AIPs have EPS performance goals, and 30% of AIPs have sales performance goals. In untabulated statistics, we find similar results.

⁴ Some firms use net income figures rather than per-share performance measures as earnings-related performance targets. We use both EPS and net income figures in our analyses.

⁵ The other is quarterly earnings for the same quarter in the prior year.

Our empirical tests encompass three sets of analyses. Using 1,173 firm-year observations between 2006 and 2015, we begin by testing the relationship between the prevailing consensus analyst forecasts and the EPS performance targets in AIPs. We find that EPS performance targets are significantly positively associated with prevailing consensus analyst forecasts ahead of the compensation committee meetings in which AIPs are approved, incremental to past EPS performance targets.⁶ This result validates our assumption that corporate boards use the prevailing consensus analyst forecasts as an input in setting EPS performance targets.

We next investigate whether managers issue pessimistic earnings guidance to affect the prevailing consensus analyst forecasts. That is, we test revisions of consensus analyst forecasts in response to event-window earnings guidance. We measure management forecast bias as the difference between the management earnings forecast and the prevailing consensus analyst forecasts (Ajinkya and Gift 1984; Baginski et al. 1993; Kothari, Shu, and Wysocki 2009; Rogers and Van Buskirk 2013). We find that analysts do make more substantive negative revisions to their forecasts in the period after the issuance of event-window guidance and before the approval date of AIPs. Interestingly, we find that the extent to which analysts respond to the event-window guidance is similar to their response to non-event-window guidance, suggesting that analysts may be unable to see through managers' opportunistic disclosure strategy.

After documenting the link between event-window management guidance and consensus analyst forecasts, as well as the link between consensus analyst forecasts and the EPS performance targets in AIPs, we examine directly whether managers issue more pessimistic event-window

⁶ It is plausible that compensation committees use management earnings guidance as a direct input in setting performance targets. Our findings show that consensus analyst forecasts are incrementally, positively associated with the EPS performance target over and above management earnings guidance issued before the approval of AIPs. In contrast, management earnings guidance loses its significance once consensus analyst forecasts are included in the regression. Therefore, we conclude that compensation committees are more likely to rely on consensus analyst forecasts to determine performance targets, although we can't completely rule out the alternative.

earning guidance to affect the target-setting process. We use 11,866 annual management earnings forecasts issued between 2006 and 2015. As expected, we find that event-window earnings guidance is on average more pessimistic than non-event-window earnings guidance, particularly when the performance metric in AIPs contains an EPS measure rather than a revenue measure. In contrast, when the performance measure in AIPs contains revenue rather than EPS measures, we find no bias in event-window earnings guidance relative to non-event-window earnings guidance. This reinforces our inference that EPS-linked managerial compensation motivates managers to issue pessimistic event-window guidance. From an economic perspective, the average magnitude of the pessimism in the event-window earnings guidance represents approximately 19% of the sample standard deviation of management EPS forecast bias.⁷

We conduct a falsification test by investigating whether our results hold for the period before 2006. This exercise tests whether the post-2006 compensation disclosure regime has pressed corporate boards to rely on analyst consensus forecasts in setting performance goals in managerial AIPs, which in turn has motivated managers to issue pessimistic event-window guidance. More specifically, we assign bonus plan approval dates to the period before 2006 using typical bonus grant dates and the performance metrics disclosed in the each firm's AIPs after 2006. We then identify event-window earnings guidance, as we have done in our main analysis. We don't find evidence of pessimism in the event-window guidance, supporting our argument that our findings are mainly driven by the enhanced disclosure regime.⁸

⁷ We find that the management forecast bias in the event window is 0.16% lower relative to non-event-window management forecasts, which represents approximately 19.3% of the sample standard deviation of the management forecast bias variable.

⁸ We acknowledge that the approval dates assigned in this test might not be the actual approval dates, despite our best efforts to identify them. Consequently, the inaccuracies in the pseudo approval dates might reduce the test power, leading to insignificant results.

In the second set of analyses, we examine whether the pessimism in event-window management guidance varies in the cross section. We find that the results are stronger when the prevailing consensus analyst forecasts during the event window are more optimistic or when the target payout amount of the AIP is larger. We also find that event-window management guidance is more pessimistically biased when the firm has missed its EPS target for the prior year — i.e., when top executives are more concerned about their reputation and job security (Bennett et al. 2017). Moreover, we find that the results are stronger when external shareholders actively monitor the firm, suggesting that corporate boards are more inclined to rely on external benchmarks to set AIP performance targets in the presence of shareholder pressure.

In the final set of analyses, we investigate the consequences of pessimistic event-window management guidance. We find that pessimism in event-window earnings guidance is associated with higher actual bonus payouts. A one-standard-deviation decrease in the management forecast bias is associated with an increase of 10.3% of the standard deviation of the actual bonus payout relative to the target payout. Furthermore, we find that the negative association between event-window guidance and CEO bonus payouts is fully mediated by post-guidance revisions of analyst consensus forecasts and EPS performance targets. This suggests that management guidance affects managerial bonus payouts through its effect on consensus analyst forecasts and the subsequent EPS performance targets in AIPs. Taken together, these findings demonstrate that managers issue more pessimistic earnings guidance during the event window to lowball performance targets and that this artificially low guidance allows managers to collect bigger bonuses and possibly enhance job security (Bennett et al. 2017).

Our paper makes four key contributions to the literature. First, the study provides evidence on the effect of firm disclosure policy on the managerial compensation process. We find evidence

that strategic managerial pessimism in earnings guidance ahead of board compensation meetings significantly lowers AIP performance targets, allowing managers to obtain higher bonus payouts and enhance job security. Prior studies find that managers manipulate earnings to meet performance targets (Bennett et al. 2017) while taking the performance targets as given. Our paper is the first, to the best of our knowledge, to study managers' role in setting performance targets. Our findings thus have important implications for corporate governance.

Second, our findings suggest that corporate boards rely on external benchmarks in response to shareholder pressure, and this, in turn, incentivizes managers to distort corporate disclosures. In this sense, shareholder activism might inadvertently promote managerial opportunism and allow managers to manipulate their compensation or cement job security, which is contrary to the stated objective of the SEC's 2006 changes to compensation disclosure requirements.

Third, our paper is related to Cheng and Lo (2005), Brockman, Khurana, and Martin (2008), Lennox and Ge (2011), and Dimitrov and Jain (2011). These studies show that management earnings guidance is used opportunistically to facilitate insider trading, corporate repurchases, and M&A transactions, as well as to influence shareholders' opinions ahead of shareholder meetings. In the same vein, our paper is also related to Matsunaga and Park (2001). They show a significant adverse effect on CEO annual cash bonuses when a firm's quarterly earnings fall short of the consensus forecast for at least two-quarters of a year. However, Matsunaga and Park do not have access to CEOs' AIP performance targets. Instead, they argue that the board may exercise their discretion to reallocate the bonus pool based on performance outcomes relative to earnings benchmarks later in the year; that is, their research focuses on the effect of (ex-post) performance outcomes on bonus payouts. In contrast, our study takes advantage of the availability of bonus

formulas to examine the effect of pessimistic management earnings guidance on setting the (ex-ante) AIP performance targets in the first quarter of the fiscal year.

Lastly, our paper contributes to the heated debate over the causes of the rapid increases in CEO compensation in recent years. Murphy (2002), Murphy and Zabochnik (2004), Oyer (2004), Gabaix and Landier (2008), Edmans, Gabaix, and Landier (2009), Core and Guay (2010), Kaplan and Rauh (2010), Baranchuk, MacDonald, and Yang (2011), and Subramanian (2013) argue that the scarcity of managerial talent and the increasing importance of managerial skills largely explain observed changes in the level and dispersion of CEO pay. In contrast, Bertrand and Mullainathan (2001), Bebchuk and Fried (2004), and Morse, Nanda, and Seru (2011) argue that CEO entrenchment and ineffective board monitoring lead to “rigged” CEO pay. We add to this literature by discovering a mechanism through which managers might influence the design of and inputs into their compensation plans. This mechanism works because, under the increasing pressure of shareholder activism, boards must rely on external performance benchmarks to justify their managerial compensation plan designs.

The remainder of the paper is organized as follows. Section II discusses related literature and develops testable predictions. Section III discusses empirical designs. Sections IV and V present our empirical results. Section VI concludes.

II. Background and Hypothesis Development

Background of CEO annual incentive plans (AIPs)

CEO AIPs are designed to improve firms’ short-term performance. “Virtually every for-profit company offers a bonus plan covering its top executives and paid annually based on a single year’s performance” (Murphy 1999). Figure 1 shows that, in our sample, annual cash bonuses

account for approximately 20 percent of total annual CEO pay between 2006 and 2015.⁹ A typical AIP contains performance measures, corresponding performance goals, and the structure of the pay-for-performance relationship. The relationship between pay and performance is often nonlinear because no bonus is paid until a threshold performance goal is achieved, at which a “minimum bonus” is paid. The target bonus is paid for achieving the performance target.¹⁰ A cap is usually placed on the bonus payout, commonly expressed as a percentage of the target bonus.

Companies select a variety of financial and non-financial performance measures based on their strategic and operational goals. The choice of performance measures also depends on the signal to noise ratios of accounting and market measures (Lambert and Larcker 1987). In practice, almost all companies rely on some measures of accounting profits in their executive AIPs. Commonly used accounting measures include EPS, revenues, net income, pre-tax income, operating profits (EBIT), and economic value added (EVA). Performance metrics (e.g., the relationship between pay and performance) are designed to strike a balance between improving shareholder value and incentivizing and retaining managerial talent. Performance targets for accounting-profit performance measures are mainly based on a single criterion. These criteria include historical performance, peer-group comparisons, analyst expectations, budgets, board discretion, and a combination of these criteria. Murphy (1999) argues that internal performance metrics are problematic if executives can participate in setting performance standards. Similarly, Anderson, Dekker, and Sedatole (2008) suggest that the benefits of pay-for-performance will be attenuated if managers are given the opportunity to influence performance goals. Interestingly, Kim and Yang (2012) show that firms tend to set EPS targets for CEO AIPs below the prevailing

⁹ The corresponding figure based on the ExecuComp Universe is 23 percent, which is similar to the calculations from our sample.

¹⁰ We use performance target and performance goal interchangeably in this paper.

consensus earnings forecasts to allow CEOs to achieve these performance goals more easily. This paper provides insights into the mechanism through which downward-biased earnings guidance issued by management helps lower consensus analyst forecasts before AIP approval, which in turn lowers the AIP performance targets.

The nonlinearity of the pay-for-performance relationship in bonus plans motivates management to distort their firms' financial reporting. Prior literature shows that firms tend to manipulate earnings upward when performance falls just short of the threshold performance goal, and downward when performance substantially exceeds the stretch performance goal at which no additional payout is awarded (Healy 1985; Gaver, Gaver, and Austin 1995; Holthausen, Larcker, and Sloan 1995). Using a large dataset of performance goals employed in executive incentive contracts, Bennett et al. (2017) find a disproportionately large number of firms exceeding their performance targets by a small margin, compared to the number that falls short of the goal by a similar margin. They find that this asymmetry is stronger when AIPs use earnings and profits as the performance goal and when the bonus payout is contingent on a single goal.

Literature on management forecasts

Management earnings forecasts have a significant influence on the market's future cash flow expectations, analysts' forecast revisions and stock returns (Ajinkya and Gift 1984; Jennings 1987; Anilowski, Feng and Skinner 2007). Prior research shows that both CEOs and CFOs have significant influence in shaping management earnings forecasts though CEOs are relatively more influential (Bamber, Jiang and Wang 2010). This study focuses on management earnings guidance driven by CEO incentives. In providing guidance, managers must consider various factors. On the one hand, providing earnings forecasts is associated with capital market benefits such as lower information asymmetry between firms and investors (Ajinkya and Gift 1984; Ajinkya, Bhojraj,

and Sengupta 2005; Karamanou and Vafeas 2005; Lennox and Park 2006; Hui, Matsunaga, and Morse 2009), and personal benefits such as stock-based compensation (Noe 1999; Aboody and Kasznik 2000; Cheng and Lo 2006; Brockman et al. 2008). On the other hand, when managers provide guidance, they bear an implicit responsibility to make reasonably accurate forecasts. Accurate guidance is rewarded, for example, via career-advancement opportunities for the CEO (Zamora 2009), whereas inaccurate guidance is associated with a higher probability of CEO turnover (Lee, Matsunaga and Park 2012).

Hypothesis development

As previously stated, performance standards in executive AIPs are generally set by corporate boards at the beginning of a fiscal year at a compensation committee meeting. To determine the performance targets, compensation committees may rely on external benchmarks that are readily available, relevant, and unbiased, such as the earnings forecasts issued by securities analysts. Anecdotally, Semler Brossy, one prestigious executive compensation consulting firm, considers analyst expectations a common benchmark for setting performance goals in the executive compensation process (*WorldatWork Journal*, Third Quarter 2015, page 10).

Compensation committees may rely on consensus analyst forecasts for two reasons. One is to obtain some reference points. The other is to make it easier for compensation committees to defend their performance target choices for executive compensation plans to shareholders. Compensation-related shareholder activism has undergone several changes since the 1990s. For example, union pension funds have become the major advocate for shareholder activism since 2002, supplanting individual shareholders. Such funds have introduced new types of proposals, advocating enhanced shareholder voting rights on CEO pay, more transparent reporting, and a tighter link between pay and performance. As a result, the frequency of and the voting support for

compensation-related shareholder proposals have increased significantly (Gillan and Starks 2007; Ertimur, Ferri, and Muslu 2010). Increased intervention by hedge fund activists has also forced boards to moderate CEO compensation and tighten the relationship between pay and performance (Brav, Jiang, Partnoy, and Randall 2008; Fos 2017). Mandatory Say-On-Pay votes starting in 2011 have imposed additional pressure on corporate boards to justify their compensation policies. Moreover, shareholders' Just-Vote-No campaigns, which aim to change executive pay practices, have become more frequent. In some high-profile cases (e.g., Home Depot, Pfizer, Bank of America), the campaigns have even contributed to the ouster of the CEO and board members.¹¹ Regardless of the specific reasons, if managers believe that compensation committees rely on analyst forecasts to set performance targets and that management earnings guidance has a direct influence on analyst forecasts, they have an incentive to issue pessimistic earnings forecasts before compensation committee meetings in order to lower performance targets linked to earnings. Based on this line of reasoning, our main hypothesis is stated as follows:

Hypothesis: When executive AIPs link performance goals to earnings, management earnings guidance is more pessimistic during the period immediately before AIP performance target approval than during other periods.

It is important to note that performance goals for executive AIPs are commonly determined in the first fiscal quarter. The pessimistic first-quarter management guidance predicted in this study is inconsistent with the typical guidance pattern documented in prior research; managers typically issue optimistic earnings guidance in the first fiscal quarter and gradually reduce this optimism in

¹¹ For example, a "Just-Vote-No" campaign engineered at Bank of America in 2009 by labor-backed Change to Win Investment Group intended to remove then-Chief Executive Ken Lewis and two other directors from the board. Even though the campaign failed to garner a majority vote against any of the three, the effort helped hasten Lewis' departure at the end of the year.

the later quarters of the same period to walk down analyst forecasts to a beatable level (Matsumoto 2002, Richardson, Teoh, and Wysocki 2004; Bergman and Roychowdhury 2008). Therefore, our prediction differs from the characteristics of management guidance identified in prior studies.

III. Research Design

To examine our hypothesis, we follow prior research and use the following regression model (Brockman et al. 2008):

$$MF\ Bias_t = \beta_1 Event\ EPS\ Target_t + \beta_2 Size_{t-1} + \beta_3 Market\text{-}to\text{-}Book_{t-1} + \beta_4 ABRET_{t-1} + \beta_5 ROA_{t-1} + \beta_6 EarnVol_{t-1} + \beta_7 Loss_{t-1} + \beta_8 Litigation\ Risk_t + \beta_9 Horizon_t + \varepsilon_t \quad (1)$$

where $MF\ Bias_t$ is the dependent variable, defined as the management EPS forecast less the consensus analyst forecast three days before the date of the management forecast, divided by the stock price three days before the date of management forecast. We multiply this variable by 100 to ease the interpretation of economic magnitude. We use all quantitative management annual earnings forecasts. If the management forecast is a range, we choose the midpoint of the range (Rogers and Van Buskirk 2013; Bergman and Roychowdhury 2008). If the management forecast is a one-sided range (e.g., it specifies only a maximum or a minimum value), we calculate management forecast bias only if the mean consensus is above (below) the maximum (minimum) value; otherwise, the management forecast is assumed to contain no bias (Bergman and Roychowdhury 2008). We calculate the daily EPS consensus analyst forecasts using the IBES unadjusted detail file. We specifically calculate the daily consensus based on individual analyst forecasts, which are required to be reported within the 90-day window immediately preceding that specific date, to ensure that our daily consensus is not based on stale analyst forecasts. We exclude individual analyst forecasts if IBES excludes the forecasts from calculating IBES-reported EPS

consensus. In addition, following Rogers and Van Buskirk (2013), we adjust daily consensus when we calculate management forecast bias if a management earnings forecast is issued concurrently with an earnings announcement (i.e., bundled management earnings forecasts).¹²

Our main independent variable, *Event EPS Target_t*, is an indicator variable equal to one for management earnings forecasts issued in the event window for firms with an EPS (or earnings) performance target and without a revenue performance target in AIPs in period t and zero otherwise. If multiple identical management forecasts are issued during the event period, we select the first one because subsequent management forecasts less likely contain new information. Consequently they have little impact on analysts' decision to revise forecasts. Figure 2 presents the timeline of events.¹³

We also include a comprehensive set of control variables. We include firm size to control for the overall information environment of a firm. We use the market-to-book ratio to control for growth options and proprietary costs (Bamber and Cheon 1998). The abnormal return variable, *ABRET_{t-1}*, controls for the effect of momentum and performance on earnings forecasts (Brockman et al. 2008). We also include return on assets to further control for the effect of performance on management forecast news. The incidence of a loss (*Loss_{t-1}*) and earnings volatility (*EarnVol_{t-1}*) are further included to control for the difficulty in predicting earnings. Both analysts' and managers'

¹² Rogers and Van Buskirk (2013) argue that when bundled management forecasts are compared to the prevailing analyst expectations, the prevailing analyst expectations need to be adjusted assuming that analysts update earnings forecasts for subsequent periods using realized earnings from the earnings announcement. By using the analyst forecast revision model in Rogers and Van Buskirk (2013), we specifically calculate management earnings bias for bundled forecasts by comparing prevailing analyst expectations with management earnings forecasts conditional on the current period's earnings surprise.

¹³ We identify the event-window management forecasts by using the grant date of bonus plans. If the grant date of bonus plans is missing, we calculate the typical grant date of AIPs for each firm during our sample period and then identify the event-window management earnings forecast. We find that the mean difference between the current period end date and the grant date of a bonus plan is 314 days (standard deviation of 18.55 days) and the mean difference between the current period end date and the event-window management forecast is 340 days (standard deviation of 25.20 days), suggesting that the compensation committee meetings are typically held in the first fiscal quarter of each year and the last management earnings forecast in the event period is issued on average 26 days before the bonus plan grant date.

earnings forecasts are likely to be less precise for firms with negative or volatile earnings, which in turn might affect the tendency of managers to lowball earnings forecasts (Skinner 1994; Soffer, Thiagarajan and Walther 2000; Matsumoto 2002; Richardson et al. 2004; Ke and Yu 2006). We include a proxy for litigation risk, *Litigation Risk_{it}*, because prior research suggests that litigation risk is an important motive for managers to voluntarily disclosure forward-looking information (Francis, Philbrick, and Schipper 1994). Lastly, we include forecast horizon as a control variable because prior research documents that forecast biases depend on forecast horizon (Rogers and Stocken 2005; Bergman and Roychowdhury 2008). See Appendix A for detailed variable definitions. To align with the time frame of our main dependent variable (i.e., bias in management annual earnings guidance), all flow variables are measured on an annual basis (e.g., return on assets) and other variables are measured at the closest date before the release of management forecasts (i.e., firm size or market-to-book ratio).

We use an ordinary least square (OLS) regression model with standard errors clustered at the firm level. We include firm and year fixed effects to control for firm-invariant and time-invariant factors that might affect management forecast bias. We also include fiscal quarter indicators to account for variance in management incentives to issue biased forecasts across the fiscal year (Matsumoto 2002).

IV. Data and Descriptive Statistics

We obtain data on performance goals and grant dates from the Incentive Lab database. The SEC standardized disclosure requirements for grants of plan-based awards in 2006, requiring firms to disclose plan details in the proxy filing starting in December 2006. Incentive Lab collects detailed plan data on grants from firms' proxy filings. For each disclosed grant, we identify

whether the firm uses EPS (or EPS growth, earnings, or earnings growth) or revenue (or revenue growth) as AIP performance measures.¹⁴ We further identify information on the corresponding performance targets and the grant dates of the incentive plans for the CEO.¹⁵

According to Section 162(m) of the tax code, the formulas for performance-based pay in annual and long-term incentive plans must be approved in the first 90 days of a fiscal year to be tax deductible. Committee grant dates are disclosed in the Grants of Plan-Based Awards table in either a firm's proxy filings or 8-K filings. Many companies have similar grant dates over time. This helps us extrapolate the grant dates of some of the AIPs before 2006.¹⁶ In Appendix B, we provide an example of a proxy filing disclosing the grant date of AIPs. Information below is extracted from the AIP of *Colgate-Palmolive* in 2007:¹⁷

“Bonus payouts for a particular year are determined ... [omitted by authors] by a formula based on the level of growth achieved the prior year in Base Business Earnings-Per-Share or the applicable division's net sales and net profit after tax. The P&O Committee has discretion to adjust the calculated awards downward, but not upward. For 2007, in order for Named Officers with

¹⁴ Specifically, we first identify bonus plans containing absolute performance goals and short-term cash awards. Next, in each bonus plan, we identify the absolute earnings or revenue performance goals in which the measurement period is annual and the performance target is available. We drop performance goals if the goal is specific to a certain business unit or geographical area.

¹⁵ In case of multiple CEOs identified in the same fiscal year (e.g., due to CEO turnover), we use AIPs for the CFO. We compare CFOs' performance targets and CEOs' performance targets when both are available and find that firms typically use the same performance metrics for both CEOs and CFOs. Our inferences are not affected if we drop the CFOs' AIPs from our empirical analyses.

¹⁶ The typical term used in firms' Grants of Plan-Based Awards Table is “grant date” rather than “approval date.” Based on private communications with ISS Corporate Services and James F. Reda at Arthur J. Gallagher & Co., we use the grant date as a proxy for the approval date for the AIP when only the former is available. For some companies, we fill in the missing grant dates of the AIPs using the grant date of the long-term incentive plan if the grant occurred in the first quarter and these incentive plans tend to be granted on the same day historically.

¹⁷ Some companies state that they do not disclose performance targets because the information is confidential in a competitive environment. For example, Affiliated Computer Services states the following on page 26 of its fiscal 2007 proxy statement. “We have not disclosed target levels with respect to specific quantitative or qualitative performance-related factors considered by the Compensation Committee because disclosure of the specific performance goals would give our competitors information that could be leveraged for competitive advantage which would result in competitive harm to the Company.” Other companies simply do not disclose any information on performance targets.

corporate-wide responsibilities to earn bonuses at the top end of their range, Base Business Earnings-Per-Share had to grow by 11.0% above the 2006 Base Business Earnings-Per-Share.”

We merge the Incentive Lab data with COMPUSTAT for financial data, the IBES Guidance database for management annual earnings forecasts, the IBES database for analyst earnings forecasts and IBES-reported actual EPS data, and CRSP for stock return data. Our final sample consists of 3,786 firm-year observations for 830 unique firms with available EPS (or earnings) or revenue performance targets in AIPs, and the sample period ranges from 2006 to 2015. Panel A of Table 1 presents the sample selection procedure. Among 3,786 firm-year observations, we identify 11,866 management annual earnings forecasts with available financial data (Firm-MF sample), which correspond to 2,184 firm-year observations for 477 unique firms. Out of 2,184 firm-year observations, 1,173 firm-year observations are used to examine the relationship between EPS performance targets in AIPs and the prevailing consensus analyst forecasts during the event window as well as pessimism in event-window management earnings guidance. Following prior studies (Rogers and Stocken 2005), we drop pre-earnings announcements (i.e., earnings forecasts issued after the end of a fiscal period but before the earnings announcement date) because pre-earnings announcements are commonly issued to avoid negative earnings surprises and deter litigation, and thus they are a part of earnings announcement strategies (Kasznik and Lev 1995; Soffer et al. 2000). The number of observations might vary depending on data availability for each test. All continuous variables are winsorized at the 1st and 99th percentiles to mitigate the influence of extreme observations.

Panel B of Table 1 reports descriptive statistics for the Firm-MF sample.¹⁸ *Event EPS REV Target_t* is an indicator variable equal to one for the latest management earnings forecast issued during the event period for firms that disclosed both EPS and revenue performance targets in AIPs in period *t* and zero otherwise. *Event REV Target_t* is an indicator variable equal to one for the latest management earnings forecast issued during the event period for firms that disclosed revenue but not EPS performance targets in AIPs in period *t* and zero otherwise. We find that approximately 5.4% (3.4%) of management earnings forecasts are *Event EPS Target_t* forecasts (*Event REV Target_t* forecasts). Approximately 4.6% of management earnings forecasts are the latest management earnings forecasts issued in the event period for firms that disclose both EPS and revenue performance targets in AIPs.

In Panel C of Table 1, we present descriptive statistics for the Firm-Year sample requiring EPS performance targets in AIPs, and the event-window management forecasts and financial data available. *AF Before MF_t* (*AF After MF_t*) is the consensus analyst forecast three days before (five days after) the date of the management forecast in the event period scaled by stock price, and multiplied by 100. *MF_t* is the event-window management earnings forecast divided by stock price and multiplied by 100. Figure 2 presents the detailed timeline of variable measurement. We find that the mean value of the *AF Before MF_t* variable (7.091) is greater than that of both the *MF_t* variable (6.79) and the *AF After MF_t* variable (6.942), consistent with our argument that management earnings guidance in the event period contains pessimistic bias, which walks down the analyst consensus forecasts. We also find that the mean value of *EPSTAR_t* is slightly lower

¹⁸ The Firm-MF sample also contains management forecast observations issued in fiscal period with no management earnings forecast issued during the event-window. If we drop those observations, the sample is reduced to 9,241 observations. All results remain both qualitatively and quantitatively similar, however.

than that of *AF After MF_t* (6.717 vs. 6.942). This is consistent with Kim and Yang (2012) who document that at the time of bonus plan approval, performance targets are set lower than the prevailing consensus analyst forecasts, making it easier for firms to achieve the performance goals ex-post.

Table 2 reports Pearson correlations for the Firm-MF sample in Panel A, and the Firm-Year sample in Panel B. In Panel A, we first note that *MF Bias_t* is significantly negatively correlated with *Event EPS Target_t* (-0.05) but not significantly correlated with *Event EPS REV Target_t* or *Event REV Target_t*, providing preliminary evidence that management EPS forecasts during the event window are generally pessimistic for firms that use EPS to set performance targets in their CEO AIPs but not firms that use revenue as their AIP metric. We also note that *Event EPS Target_t* is significantly negatively correlated with *AF Revision_t* (-0.05), which measures analyst forecast revisions issued after management EPS forecasts. This correlation provides initial evidence that managers issue pessimistic earnings guidance during the event window to walk down the consensus analyst forecast. *AF Revision_t* is positively correlated with *MF Bias_t* (0.23), implying that analysts revise forecasts in the direction consistent with management forecast bias.

In Panel B, we note that *EPSTAR_t* is significantly positively correlated with *AF Before MF_t* and *AF After MF_t*, and the magnitude of the correlation between *EPSTAR_t* and *AF After MF_t* (0.78) is greater than that between *EPSTAR_t* and *AF Before MF_t* (0.69). This evidence suggests that the prevailing consensus analyst forecast may serve as an input in setting the EPS performance target in AIPs, which we will validate in the multivariate regression below. The correlation between *AF Before MF_t* and *MF Bias_t* is significantly negative (-0.16), suggesting that the event-window management earnings guidance might be used to walk down the prevailing consensus analyst forecasts.

V. Empirical results

Validity Check

We begin our empirical analyses by validating our assumption that corporate boards refer to the prevailing consensus analyst forecasts to determine the EPS-based CEO performance target in AIPs. It is also plausible that boards directly reference management earnings forecasts to set performance targets. However, earnings forecasts issued by management are arguably less objective compared with those provided by security analysts, which in turn could undermine boards' ability to defend AIP performance metrics to shareholders. To determine which benchmark boards are likely to rely on, we examine how the EPS performance target figures in AIPs ($EPSTAR_t$) are related to earnings forecast by management (MF_t), earnings forecast by security analysts three days before management earnings guidance ($AF\ Before\ MF_t$), and consensus analyst forecasts issued five days after management earnings guidance ($AF\ After\ MF_t$). We use multivariate OLS regressions, clustering standard errors at the firm level.

Table 3 presents regression results using Firm-Year sample, with $EPSTAR_t$ as the dependent variable. In columns 1, 2, and 3, $AF\ Before\ MF_t$, MF_t , and $AF\ After\ MF_t$, respectively, are the main explanatory variables. We find that each variable is significantly positively associated with the $EPSTAR_t$ variable. Focusing on estimated coefficients and adjusted R^2 , we find the most significant input appears to be the consensus analyst forecasts after management earnings guidance. To compare the relative importance of these variables, we run a regression that includes both $AF\ Before\ MF_t$ and $AF\ After\ MF_t$. The results reported in column 4 show that the coefficient estimate on the $AF\ Before\ MF_t$ variable becomes significantly negative at the 10% level (coefficient = -0.086 and t-stat = -1.688) while the $AF\ After\ MF_t$ variable remains significantly positive at the 1%

level (coefficient = 0.879 and t-stat = 10.111).¹⁹ In column 5, we include MF_t and $AF\ After\ MF_t$ simultaneously in the regression model, and find that the MF_t variable becomes statistically insignificant (coefficient = 0.012 and t-stat = 0.220). This evidence suggests that the consensus analyst forecasts appear to be more relevant than management earnings guidance in setting the EPS target, and consensus analyst forecasts subsume management guidance in affecting the EPS target.

In column 6, we control for the EPS performance target in the previous year ($EPSTAR_{t-1}$). We continue to find a positive coefficient on $AF\ After\ MF_t$. We also find a positive coefficient on $EPSTAR_{t-1}$, suggesting that the EPS performance target in the previous year is an also input in setting the current period's EPS performance target. An F-stat testing the difference in the effects of $AF\ After\ MF_t$ and $EPSTAR_{t-1}$ indicates that $AF\ After\ MF_t$ has more influence on the EPS target for the current year than $EPSTAR_{t-1}$. Overall, the results in Table 3 lend support to our assumption that corporate boards use the prevailing consensus analyst forecast as an input in setting the EPS performance target in AIPs.

Next, we use Firm-MF sample to examine whether managers issue pessimistic earnings forecasts in the event window to guide analyst forecasts downward. Table 4 reports the results, using $AF\ Revision_t$ as the dependent variable. In column 1, we find a significantly positive coefficient on the $MF\ Bias_t$ variable, suggesting that analysts revise their outstanding earnings forecasts in the direction consistent with the management earnings forecast bias. In column 2, we separately include the $Event\ EPS\ Target_t$ variable in the regression and find a significantly negative coefficient at the 5% level, implying that, on average, analysts revise forecasts downward in the event window. In column 3, we interact $MF\ Bias_t$ with $Event\ EPS\ Target_t$ to test whether analysts

¹⁹ The significantly negative coefficient on the $AF\ Before\ MF_t$ variable is possibly due to multicollinearity, given the high correlation between the $AF\ Before\ MF_t$ and $AF\ After\ MF_t$ variables (Pearson correlation 0.9; See Table 2).

react differently to management forecasts issued in the event window from those issued outside the event window. We show that the interaction term is not statistically significant, implying that analysts react similarly to event-window and non-event-window management forecasts. Taken in tandem, the findings in Table 3 and Table 4 verify our assumption that management forecasts issued shortly before AIP approval dates guide analyst forecasts, which are then used by boards as a benchmark in determining earnings performance goals for the AIPs. Such a mechanism provides incentives for managers to issue pessimistic earnings guidance immediately prior to AIP approval.

Main analysis

We examine whether managers issue more pessimistic earnings forecasts in the event window than outside the event window by directly investigating the biases imbedded in management earnings forecasts. Panel A of Table 5 reports results of testing our hypothesis using equation (1). In column 1, our main variable of interest, *Event EPS Target_t*, is loaded negatively and statistically significant at the 1% level. This evidence is consistent with our expectation that when managers' bonuses are directly linked to a firm's EPS, management earnings guidance issued in the event period is more pessimistic relative to those issued in other periods. From an economic perspective, management earnings forecasts issued in the event window are 0.16% lower than those issued in other periods, which represents approximately 19.3% of the standard deviation of the *MF Bias_t* variable ($0.193 = 0.16 / 0.828$). Regarding control variables, we find that *Size_{t-1}*, *Market-to-Book_{t-1}*, and *Loss_{t-1}* are significantly positively associated with management forecast bias, suggesting that large firms, firms with high growth, and firms incurring losses tend to issue more optimistic forecasts (Bergman and Roychowdhury 2008; Hribar and Yang 2015). *Litigation Risk_t* is negatively associated with management forecast optimism, implying that management is

more likely to be pessimistic in forecasting earnings when litigation risk is high (Francis et al. 1994; Skinner 1994). We find that $Horizon_t$ is significantly positively associated with management forecast bias, consistent with the prior literature that long-term forecasts tend to be more optimistic (Matsumoto 2002, Richardson, Teoh, and Wysocki 2004).

Next, we examine whether event-window management earnings forecasts demonstrate similar pessimism when management bonuses are linked to both EPS and revenue or revenue only. If it is management's intention to lower performance targets that leads to forecast pessimism, then we would expect to find weaker results for firms whose managers' bonuses are linked to both EPS and revenue because the additional linkage to revenue might dilute managers' incentive to lower earnings forecasts. We expect to observe even weaker results for firms whose managers' bonuses are linked to revenue than EPS because management earnings forecasts are less likely to have a direct influence on revenue targets.

In column 2, consistent with our expectation, the $Event\ EPS\ REV\ Target_t$ variable is loaded negatively but statistically insignificant. In column 3, we find the coefficient on the $Event\ REV\ Target_t$ variable is positive but insignificant. In column 4, we include all three indicator variables in the same regression model to compare the economic magnitude of estimated coefficients. We find that the results from columns 1 through 3 also hold in column 4. Specifically, $Event\ EPS\ REV\ Target_t$ remains statistically insignificant. The absolute value of the coefficient of $Event\ EPS\ Target_t$ is statistically larger than that of $Event\ EPS\ REV\ Target_t$ at the 10% level (F-stat = 3.72; P-value = 0.054). The coefficient of $Event\ REV\ Target_t$ continues to be insignificant in column 4, and its absolute magnitude is smaller than that of $Event\ EPS\ Target_t$ (F-stat = 7.034; p-value = 0.008). There is no statistical difference between the coefficients of $Event\ EPS\ REV\ Target_t$ and $Event\ REV\ Target_t$.

Alternative explanations and robustness tests

Prior research finds that managers are more likely to release bad news before stock option awards to dampen stock price (Aboody and Kasznik 2000). We next investigate whether our findings can be explained by pessimism in management earnings forecasts driven by AIPs that grant equity incentives (Table 5 Panel B). In column 1, we identify firms with stand-alone AIPs that do not contain long-term incentive plans and examine the event-window earnings forecasts issued by those firms for evidence of pessimism.²⁰ We find a significantly negative coefficient on the *Event EPS Target_t* variable for firms with AIPs without long-term equity incentives in column 1. In column 2 of Panel B, using the remaining sample, we continue to find a significantly negative coefficient on the *Event EPS Target_t* variable. It is important to note that we do not find significant differences between the coefficient estimates on *Event EPS Target_t* in column 1 and column 2. This evidence alleviates the potential concern that our results are merely driven by equity awards rather than short-term EPS performance targets in AIPs.

Our main hypothesis is based on the argument that, due to enhanced compensation-related disclosures, shareholder pressures lead corporate boards to rely on consensus analyst forecasts to set performance targets in executive AIPs. Alternatively, corporate boards might have naïvely relied on external benchmarks in setting the performance target regardless of shareholder pressures. To rule out these possibilities, we conduct an analysis based on the period before 2006. If the alternative explanation is true, we would expect the results to hold even before 2006, indicating that the boards' reliance on external benchmarks in setting performance targets does not depend on whether these targets are publicly disclosed or not.

²⁰ The sample for column 1 includes observations for which we cannot identify a long-term incentive plan granted at the same date as the short-term AIP. We check the robustness of the results by further excluding observations in which we could find a long-term incentive plan granted in the [-5, 5] window centered on the AIP approval dates. We find qualitatively similar results.

We face two challenges in attempting to test whether our results hold for the period before 2006. First, we do not observe performance targets in AIPs before 2006 because they were not disclosed. Therefore, we have to make the assumption that firms' compensation policies are stable over time, which allows us to assign the performance measures observed in the post-2006 period to the pre-2006 period.²¹ Second, we do not observe the actual date of compensation committee meetings before 2006. Therefore, we assume that these meeting dates do not vary significantly across years. More specifically, we assign compensation committee meeting dates for the period before 2006 using the typical observed compensation committee meeting dates for the same firm during the period after 2006.²² We then identify the latest management earnings guidance issued before the assigned compensation committee meeting dates, *Assigned Event EPS Target_t*, in the same way as we do in our main analysis.

Table 5 Panel C reports the results for the period 2001-2005. In column 1, we find an insignificant coefficient on the *Assigned Event EPS Target_t* variable. Furthermore, the absolute value of the coefficient estimate is much smaller than that reported in Panel A. We also find an insignificant coefficient on *Assigned Event EPS REV Target_t* in column 2 and *Assigned Event REV Target_t* column 3. Overall, the combined evidence from Panel C suggests that corporate boards accede to shareholder pressures rather than act naïvely to rely on external benchmarks in setting performance targets.

²¹ Our final sample consists of 830 unique firms during the post-2006 sample period. We find that 83.25% (= 691 firms / 830 firms) of our sample firms have not changed their performance target metrics in the post-2006 period, indicating that the choice is sticky. As a robustness check, we select a subsample of firms that have not changed their compensation policies post-2006, and find qualitatively similar results to those reported in Panel C of Table 4.

²² We find that the average of each firm's standard deviation of meeting dates during the post-2006 sample period is 8.97 days, suggesting that a firm's grant dates do not vary significantly. We further check the sensitivity of our results by assigning each firm's first or last compensation committee meeting date during the post-2006 sample period as the date for the years 2001-2005. We find similar results.

We find evidence that event-window management earnings forecasts are more pessimistic than those non-event-window forecasts and we attribute these findings to strategic disclosures by managers to lower performance targets in AIPs. One concern with our results might be that they might be driven by artifacts of the testing procedures we use. In other words, by construction, our event-window mainly concentrates in the first fiscal quarter. If management earnings forecasts issued in the first fiscal quarter are somehow more pessimistic than those issued in other quarters for reasons other than we hypothesize, then our results might be spurious. To alleviate this concern, we conduct a falsification test in the similar spirit of Jacob and Jorgensen (2007). As they point out, annual earnings can be measured in either fiscal year or by aggregating quarterly earnings. We test management earnings forecast bias for alternative annual earnings forecasts. If strategic disclosures are responsible for our findings, we will not expect to observe similar findings when management earnings forecasts for these alternative annual earnings are used.

To conduct this test, we compute management alternative-annual earnings forecasts that are the sum of quarterly earnings forecasts for the current and following quarters. If the portion of the alternative-annual earnings are realized at the time of management issuing quarterly forecasts, then we use the realized quarterly earnings.²³ Similarly, we construct consensus analyst alternative-annual earnings forecasts by using the consensus analyst quarterly earnings forecasts measured three days before the corresponding quarterly management earnings forecasts. The alternative management earnings forecast bias as the difference between management alternative-annual earnings forecasts and analyst consensus alternative-annual-earnings forecasts, scaled by stock price, and multiplied by 100. We then identify the latest management earnings guidance

²³ For example, an alternative annual management earnings forecast for 2010/Q3 is calculated as the sum of the realized quarterly earnings for 2010/Q1 and 2010/Q2, management quarterly earnings forecast for 2010/Q3, and management quarterly earnings forecasts for 2010/Q4, which is outstanding in 2010/Q3. If quarterly earnings forecasts are not available, we use the annual earnings forecast to back out quarterly forecasts.

issued before compensation committee meeting dates in the same way as we do in our main analysis.

Table 5 Panel D reports the results. We do not find statistically significant coefficient on *Event EPS Target* in columns (1) and (4) when alternative management earnings forecasts bias serves as the dependent variable. The coefficients on other control variables omitted from reporting are largely consistent with those from Panel A. Therefore, we conclude that our findings are unlikely to be driven by artifacts of our testing procedures.

Cross-sectional analyses in management incentives

In this section, we conduct cross-sectional analyses aiming to shed light on the heterogeneity in managers' incentives to engage in compensation-induced opportunistic disclosure strategy.

Analyst forecast optimism

First, we investigate whether management incentives for strategic disclosure vary with analyst optimism. Intuitively, if compensation committees refer to analyst forecasts in setting performance targets, then we expect event-window management forecasts to be more pessimistic when the prevailing consensus analyst forecasts are more optimistic.

To examine this prediction, we use an indicator variable, *High AF Bias_t*, which measures the optimism of the prevailing consensus analyst forecast in the event window, and interact this variable with the *Event EPS Target_t* variable. More specifically, we first calculate analyst forecast bias as the prevailing consensus analyst forecast three days before the date of the event-window guidance less the actual EPS in period t scaled by stock price. We then give the *High AF Bias_t* variable a value of one if analyst forecast bias is greater than the sample median and zero otherwise.

We report the results in column 1 of Table 6. We find a significantly negative coefficient on *High AF Bias_t*, suggesting that managers tend to issue pessimistic forecasts when analysts are more optimistic in the non-event window. The coefficient on *Event EPS Target_t* is positive but insignificant, implying that event-window management forecasts do not differ from non-event-window forecasts when security analysts are not optimistic. More importantly, we find the interaction term, *Event EPS Target_t × High AF Bias_t*, is negative and statistically significant at the 1% level. The evidence suggests that management forecasts issued in the event window are more pessimistic than non-event-window forecasts when the prevailing consensus analyst forecast is optimistic. In an untabulated test, we replace the actual EPS in period *t* with the projected EPS, which is measured as the actual EPS multiplied by the actual EPS growth rate in period *t-1*, to define the *High AF Bias_t* variable to avoid potential endogeneity concerns. We find similar results.

Target bonus payout

Second, we investigate whether management incentives for strategic disclosure vary with target bonus amount. We expect that managers are more likely to issue pessimistic event-window earnings forecasts if the expected bonus amount is greater. To test this prediction, we construct *High Target Bonus_{t-1}*, which is an indicator equal to one if the target bonus (non-equity incentive) payout in period *t-1* scaled by total cash compensation in period *t-1* is greater than the sample median and zero otherwise.²⁴ We interact this conditioning variable with *Event EPS Target_t*. Column 2 of Table 6 shows that the coefficient on *Event EPS Target_t* is negative but statistically insignificant, suggesting that event-window management forecasts are similar to non-window forecasts when the expected target bonus is low. However, when the expected target bonus is high, event-window management forecasts are more pessimistic than non-event-window forecasts, as

²⁴ We find similar results if we use the target bonus payout in period *t*, assuming that managers know the target bonus payout in the current period before the AIPs are approved by the compensation committee.

evidenced by the significant negative coefficient on the interaction term, $Event\ EPS\ Target_t \times High\ Target\ Bonus_{t-1}$. Thus, we find evidence that management incentives to engage in compensation-related strategic disclosure are stronger when the expected target bonus is high.

Missing the performance target in the previous year

Third, we investigate whether concerns about reputational losses and job security due to missing performance targets affect management incentives for strategic disclosure (Bennett et al. 2017). We use the $Miss\ EPS\ Target_{t-1}$ variable, which is an indicator equal to one if managers missed the EPS performance target in period $t-1$ and zero otherwise, and interact this variable with the $Event\ EPS\ Target_t$ variable. In column 3 of Table 6, we find a negative and significant coefficient on $Event\ EPS\ Target_t$, implying that event-window management forecasts are more pessimistic than non-event-window forecasts even when the EPS performance target for the prior year had been met. When managers had missed the EPS performance target in the prior year, pessimism in event-window forecasts becomes even stronger, as evidenced by the significantly negative coefficient on the interaction term, $Event\ EPS\ Target_t \times Miss\ EPS\ Target_{t-1}$. The evidence suggests that managers have stronger incentives to engage in strategic disclosure to avoid losing their jobs.

Cross-sectional analyses of shareholder pressures

In developing our main hypothesis, we argued that increased shareholder activism fueled by enhanced disclosure requirements leads to opportunistic managerial disclosure behavior. We explicitly test this argument in this section. If the argument is true, we would expect to observe more pessimism in event-window management forecasts when shareholders are particularly active.

We capture the intensity of shareholder activism using four measures. First, we use the concentration of top-five institutional ownership (Smith 1996; Gillan and Starks 2002; Hartzell and Starks 2003). Prior studies suggest that institutions have greater monitoring influences when they are large shareholders (Shleifer and Vishny 1986). Second, we use the concentration of ownership by institutions with long investment horizons (Bushee 1998; Bushee, Carter, and Gerakos 2013). Bushee et al. (2013) find evidence that institutions with longer investment horizons tilt their portfolio towards firms providing better shareholder rights and engage in shareholder activism to improve corporate governance. Third, we use the concentration of ownership by pensions, endowments, and bank trusts. These institutions face a higher standard of prudence and more stringent duties, and thereby they are more likely to invest in firms with better shareholder rights as a defense against potential investor lawsuits (Del Guercio 1996; Bushee et al. 2013).²⁵ Fourth, we use the actual occurrence of compensation-related shareholder activism to capture the intensity of shareholder activism.

Table 7 presents results. Following prior studies, we measure institutional ownership variables as the average over the four previous quarters (Bushee et al. 2013). We then compute the concentration of institutional ownership, i.e., Herfindahl-Hirschman index (HHI), to capture the intensity of shareholder activism.²⁶ In column 1, we compute an indicator variable, *High INST TOP5_{t-1}*, which is equal to one if the concentration of top-five institutional ownership for firm *i* in period *t-1* exceeds the sample median and zero otherwise, and interact this variable with *Event EPS Target_t*. We find a significantly negative coefficient on *Event EPS Target_t × High INST TOP5_{t-1}* at the 5% level, suggesting that intense monitoring from large external shareholders

²⁵ We obtain data on the classifications of institutional ownership (i.e., investment horizons and legal types) from Brian Bushee's website (<http://acct.wharton.upenn.edu/faculty/bushee/IIclass.html>). The data is available until 2013.

²⁶ In untabulated tests, instead of the HHI of institutional ownership, we use the level of each institutional ownership variable and find that our results are qualitatively similar.

facilitates pessimism in event-window earnings guidance. In column 2, we use *High INST DED*_{*t-1*} as a conditioning variable that is equal to one if the concentration of dedicated institutional ownership for firm *i* in period *t-1* exceeds its sample median and zero otherwise, and interact this variable with *Event EPS Target*_{*t*}. We find a significantly negative coefficient on *Event EPS Target*_{*t*} × *High INST DED*_{*t-1*} at the 10% level. This evidence is consistent with our expectation and suggests that the event-window earnings guidance is more pessimistic when institutional investors' investment horizons are longer.²⁷ In column 3, we create the indicator variable *High INST PNEB*_{*t-1*}, which is equal to one if the concentration of ownership by pensions, endowments, and bank trusts for firm *i* in period *t-1* exceeds its sample median and zero otherwise, and interact this variable with *Event EPS Target*_{*t*}. Again, we find a significantly negative coefficient on *Event EPS Target*_{*t*} × *High INST PNEB*_{*t-1*} at the 5% level, suggesting that institutions with a higher standard of prudence are associated with more external pressure on corporate boards, leading to more pessimism in the event-window earnings guidance.²⁸

In column 1 through column 3, we examine the effects of the threat of shareholder activism on pessimism in event-window earnings guidance. In column 4, we examine whether the actual occurrence of compensation-related shareholder activism gives rise to more pessimistic event-

²⁷ In untabulated tests, we examine the relationship between the levels of ownership by quasi-indexers or transient institutions (i.e., institutions with relatively short investment horizons) and pessimism in event-window earnings guidance. We find no evidence that concentrated ownership by institutions with short investment horizons is associated with pessimistic event-window guidance, corroborating our finding in column 2. These results are also consistent with prior research suggesting that these two kinds of institutions (i.e., transient versus dedicated institutions) have different incentives to monitor firm policies (Ramalingegowda and Yu 2012; Dikolli, Kulp, and Sedatole 2009).

²⁸ In untabulated results, rather than using the ownership concentration of pensions, endowments, and bank trusts, we use the ownership concentration of investment advisors and insurance companies, which are expected to have lower standards of prudence (Bushee et al. 2013) to create conditioning variables and examine their relationship with pessimism in the event-window earnings guidance. Consistent with our earlier evidence, we don't find more pessimistic event-window earnings guidance when the ownership concentration of investment advisors and insurance companies is high, supporting our prediction that higher standards of prudence are associated with intense shareholder activism threats that prompt managers to engage in opportunistic disclosure behavior.

window earnings guidance.²⁹ To test this prediction, we construct an indicator variable, *Shareholder Proposal*_{*t-1*}, which is equal to one if a firm’s shareholder votes for shareholder-sponsored proposals and against management-sponsored proposals relating to compensation exceed 30% in the current or previous period and zero otherwise, and interact this variable with *Event EPS Target*_{*t*}.³⁰ In column 4, we find a significantly negative coefficient on *Event EPS Target*_{*t*} × *Shareholder Proposal*_{*t-1*} at the 10% level, suggesting that compensation-related shareholder activism induces managers to guide consensus analyst forecasts downward.³¹

Overall, results in Table 7 provide evidence consistent with our expectations that greater external shareholder pressures and monitoring lead to corporate boards externally benchmarking to set AIP performance targets, which facilitates the issuance of pessimistic event-window management earnings guidance to affect the target setting process.

Do managers benefit from issuing pessimistic earnings forecasts?

In this section, we test whether managers receive higher bonus payouts as a result of compensation-induced strategic disclosures. Table 8 reports results. We measure the dependent variable, *Actual less Target Payout*_{*t*}, as the difference between the actual non-equity incentive

²⁹ We use the voting tallies for proxy items recorded in the Voting Analytics provided by ISS Corporate Services. For each proxy item proposed by the management or shareholders, the database includes the number of total votes cast, the number of votes “For” the proposal, the number of votes “Against” the proposal, and the number of “Abstained” votes. For a shareholder proposal on compensation-related issues, S5***, voting support is calculated as the fraction of “For” votes out of the total votes cast. For a management proposal on compensation-related issues, M5***, voting support is calculated as the fraction of “Against” and “Abstained” votes out of the total votes cast.

³⁰ We focus on first-time shareholder proposals made during our sample period and assume that managers are aware of the possibility of significant compensation-related shareholder proposals in the current period.

³¹ We note that the marginally significant result could be attributed to the weak statistical power to detect the effect. Descriptive Statistics in Panel B of Table 1 show that only 6.3% of our earnings guidance observations are subject to the treatment, i.e., the occurrence of significant shareholder proposals, and the interaction between *Shareholder Proposal*_{*t-1*} and *Event EPS Target*_{*t*} further reduces observations that are subject to the treatment effect. To increase the empirical power to detect the effect, we use the past three-year or five-year period window to construct *Shareholder Proposal*_{*t-1*}. In untabulated tests, we find negative but marginally insignificant coefficients on the interaction terms in these cases, possibly due to the effects becoming weaker as the measurement window becomes longer.

payout and the target non-equity incentive payout amount in period t scaled by total cash compensation in period $t-1$. In column 1, we find a significantly negative coefficient on both *AF Before MF_t* and *MF Bias_t*, suggesting that the pessimism in both pre-MF consensus analyst forecasts and event-window management forecasts contribute to a higher bonus payout to managers. A one-standard-deviation decrease in the event-window management forecast bias is associated with an 0.04 ($= -0.043 \times 0.932$) increase in *Actual less Target Payout_t*, which represents approximately 10.3% of its standard deviation ($= 0.04 / 0.389$) and \$0.117 million in actual bonus payout in excess of target payout amount.³² In column 2, we replace *AF Before MF_t* with *AF After MF_t* and find that the *MF Bias_t* variable is no longer statistically significant, implying that post-MF consensus analyst forecasts subsume pessimism in event-window management forecasts in affecting the actual bonus payout. In column 3, we replace the *AF After MF_t* variable with the actual EPS performance target in period t (*EPSTAR_t*) and, again, find an insignificant coefficient on *MF Bias_t*, suggesting that the pessimism in event-window management forecasts is incorporated into EPS performance targets in affecting the actual bonus payments.³³ Collectively, our evidence suggests that strategic management disclosure in the event window lowers AIP performance targets and increases the bonus payouts to managers.

VI. Conclusion

This study examines strategic management disclosures in the form of earnings forecasts issued ahead of compensation meetings approving executive AIPs. We argue that managers have

³² The average cash compensation in period $t-1$ is \$2,939,770. Hence, an increase of 0.04 in the dependent variable corresponds to an increase of \$117,591 in actual bonus payout in excess of the target payout amount ($117,591 = 0.04 \times 2,939,770$).

³³ In untabulated tests, we find similar results using the EPS performance targets as a dependent variable. We find evidence that pessimistic event-window earnings guidance contributes to lower EPS performance targets in AIPs, primarily through its effect on the prevailing consensus analyst forecasts.

incentives to make such strategic disclosures because corporate boards rely on analyst forecasts to set AIP performance targets. We find evidence supporting the argument that the prevailing consensus analyst forecasts are positively associated with the EPS performance targets in AIPs.

Next, we find that management earnings forecasts issued before compensation meetings are more pessimistic than those issued in other periods. The result is unlikely to be driven by equity-related incentives for strategic disclosure (Aboody and Kasznik 2000). Further, we do not find similar results before 2006, suggesting that the enhanced compensation disclosure requirements post-2006 contributed to the increased pessimism in management earnings forecasts. In response to pessimistic management forecasts issued during the event window, analysts revise their forecasts downward. Analyst revisions made during the event window are similar in magnitude to those made in other periods.

Cross-sectional tests suggest that management has a stronger incentive to make strategic disclosures during the event window when existing consensus analyst forecasts are more optimistic, the target payout amount of the AIP is larger, or the firm has missed its EPS performance target in the previous year. Finally, we find evidence suggesting that pessimistic event-window earnings forecasts increase the actual bonus payout to management.

More interestingly, we find that our results on strategic management disclosure are stronger when shareholder activism is more intense, suggesting an unintended consequence of shareholder activism.

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Appendix A Variable Definitions

Variables	Descriptions
$MF\ Bias_t$	$MF\ Bias_t$ is measured as management's quantitative earnings forecast less the prevailing mean consensus analyst forecast three days before the date of the management forecast, scaled by stock price, and multiplied by 100.
$AF\ Revision_t$	$AF\ Revision_t$ is defined as the mean consensus analyst forecast five days after the date of the management forecast less the mean consensus analyst forecast three days before the date of the management forecast, scaled by stock price, and multiplied by 100.
$Event\ EPS\ Target_t$	$Event\ EPS\ Target_t$ is an indicator variable equal to one for the latest management earnings forecast issued during the 90-day period before the AIP grant date for firms with an EPS performance target but without a revenue performance target and zero otherwise.
$Event\ EPS\ REV\ Target_t$	$Event\ EPS\ REV\ Target_t$ is an indicator variable equal to one for the latest management earnings forecast issued during the 90 day period prior to the AIP grant date for firms with both EPS and revenue performance targets and zero otherwise.
$Event\ REV\ Target_t$	$Event\ REV\ Target_t$ is an indicator variable equal to one for the latest management earning forecast issued during the 90 day period before the grant date of AIPs for firms with revenue performance target but without EPS performance target and zero otherwise.
$Size_{t-1}$	$Size_{t-1}$ is measured as the natural logarithm of firm i 's market value of equity at the end of fiscal quarter preceding the date of the management forecast.
$Market-to-Book_{t-1}$	$Market-to-Book_{t-1}$ is measured as the market-to-book ratio at the end of the fiscal quarter preceding the date of the management forecast.
$ABRET_{t-1}$	$ABRET_{t-1}$ is defined as cumulative abnormal returns, measured as the excess firm returns over the CRSP value-weighted returns during the three months ending 2 days before the issuance of the management forecast.
ROA_{t-1}	ROA_{t-1} is calculated as income before extraordinary items in period $t-1$ divided by lagged total assets.
$EarnVol_{t-1}$	$EarnVol_{t-1}$ is measured as standard deviation of quarterly earnings scaled by lagged total assets over 12 quarters preceding the date of the management forecast.
$Litigation\ Risk_t$	$Litigation\ Risk_t$ is an indicator variable equal to one for firms in the biotechnology (SIC 2833–2836 and 8731–8734), computers (3570–3577 and 7370–7374), electronics (3600–3674), and retail (5200–5961) industries and zero otherwise.
$Loss_{t-1}$	$Loss_{t-1}$ is an indicator variable equal to one if the firm reported losses in period $t-1$ and zero otherwise
$Horizon_t$	$Horizon_t$ is measured as the difference between the date of fiscal year-end and the date of the management forecast, divided by 365.
$AF\ Bias_t$	$AF\ Bias_t$ is measured as the difference between the consensus analyst forecast three days before the date of the event-window management forecast and the actual EPS for firm i in period t divided by stock price. When this variable is used

	as a conditioning variable, we create an indicator variable, <i>High AF Bias_t</i> , equal to one if the <i>AF Bias_t</i> variable exceeds its sample median and zero otherwise.
<i>Target Bonus_{t-1}</i>	<i>Target Bonus_{t-1}</i> is defined as the non-equity incentive target in period <i>t-1</i> divided by total cash compensation (i.e., the sum of salary and bonus payout) in period <i>t-1</i> . When this variable is used as a conditioning variable, we create an indicator variable, <i>High Target Bonus_{t-1}</i> , equal to one if the <i>Target Bonus_{t-1}</i> variable exceeds its sample median and zero otherwise.
<i>Miss EPS Target_{t-1}</i>	<i>Miss EPS Target_{t-1}</i> is an indicator variable equal to one if firm <i>i</i> missed the EPS performance target in period <i>t-1</i> and zero otherwise.
<i>INST TOP5_{t-1}</i>	<i>INST TOP5_{t-1}</i> is measured as the concentration of top-five institutional ownership for firm <i>i</i> in period <i>t-1</i> . When this variable is used as a conditioning variable, we create an indicator variable, <i>High INST TOP5_{t-1}</i> , equal to one if <i>INST TOP5_{t-1}</i> exceeds its sample median, zero otherwise.
<i>INST DED_{t-1}</i>	<i>INST DED_{t-1}</i> is measured as the concentration of dedicated institutional ownership for firm <i>i</i> in period <i>t-1</i> . When this variable is used as a conditioning variable, we create an indicator variable, <i>High INST DED_{t-1}</i> , equal to one if <i>INST DED_{t-1}</i> exceeds its sample median and zero otherwise.
<i>INST PNEB_{t-1}</i>	<i>INST PNEB_{t-1}</i> is measured as the concentration of pensions', endowments', or bank trusts' institutional ownership for firm <i>i</i> in period <i>t-1</i> . When this variable is used as a conditioning variable, we create an indicator variable, <i>High INST PNEB_{t-1}</i> , equal to one if <i>INST PNEB_{t-1}</i> exceeds its sample median and zero otherwise.
<i>Shareholder Proposal_{t-1}</i>	<i>Shareholder Proposal_{t-1}</i> is an indicator variable equal to one if a firm has received votes for shareholder-sponsored proposals and against management-sponsored proposals relating compensation exceeding 30% of total votes in the current period or period <i>t-1</i> and zero otherwise.
<i>EPSTAR_t</i>	<i>EPSTAR_t</i> is the actual EPS performance target in the AIP, divided by stock price and multiplied by 100.
<i>Actual less Target Payout_t</i>	<i>Actual less Target Payout_t</i> is measured as the difference between the actual non-equity incentive bonus payout and the target non-equity incentive bonus amount in period <i>t</i> , scaled by total cash compensation in period <i>t-1</i> .
<i>AF Before MF_t</i>	<i>AF Before MF_t</i> is the mean consensus analyst forecast three days before the date of event-window management earnings guidance, scaled by stock price and multiplied by 100.
<i>MF_t</i>	<i>MF_t</i> is the event-window management earnings guidance, divided by stock price and multiplied by 100.
<i>AF After MF_t</i>	<i>AF After MF_t</i> is the mean consensus analyst forecast five days after the date of event-window management earnings guidance, scaled by stock price and multiplied by 100.
<i>Actual EPS_t</i>	<i>Actual EPS_t</i> is the IBES-reported actual EPS in period <i>t</i> divided by stock price and multiplied by 100.

Appendix B An Example

Mar 25, 2010 Hess Corporation proxy statement

Grants of Plan-Based Awards

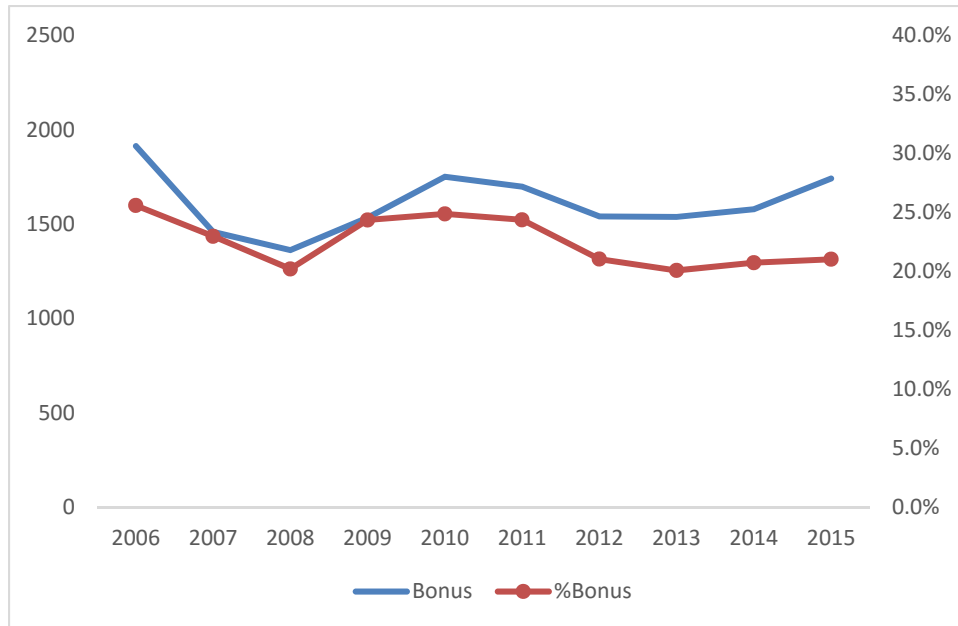
On February 4, 2009, the compensation and management development committee approved awards of non-qualified stock options and established target bonuses and on March 4, 2009 (February 4, 2009, for Messrs. Hill and Goodell) approved awards of restricted stock to the named executive officers. The following table sets forth information concerning possible payouts under the annual cash bonus plan for 2009 and individual grants of stock options and restricted stock made under the incentive plan for the last fiscal year to each of the named executive officers:

Grants of Plan-Based Awards

Name (a)	Grant Date (b)	Estimated Future Payouts Under Non-Equity Incentive Plan Awards(1)			All Other Stock Awards: Number of Shares of Stock or Units: (#) (f)	All Other Option Awards: Number of Securities Underlying Options (#) (g)	Exercise Price of Option Awards (\$ /Sh) (h)	Grant Date Fair Value of Stock & Option Awards: (\$)(2) (i)
		Threshold (\$) (c)	Target (\$) (d)	Maximum (\$) (e)				
Hess, John B	04-Feb-09							
	04-Mar-09				75,150		4,157,298	
	04-Feb-09	1,033,333	2,066,667	3,100,000		56.43	4,144,523	
Hill, Gregory P	04-Feb-09							
	04-Feb-09				48,500	145,500	2,683,020	
	04-Feb-09	283,333	566,667	850,000			2,736,855	
Walker, F. Borden	04-Feb-09							
	04-Mar-09				21,850	65,550	1,208,742	
	04-Feb-09	250,000	500,000	750,000		56.43	1,205,028	
Goodell, Timothy B	04-Feb-09							
	04-Feb-09				22,000	66,000	1,217,040	
	04-Feb-09	216,667	433,333	650,000		56.43	1,241,460	
Rielly, John P	04-Feb-09							
	04-Mar-09				18,200	54,600	1,006,824	
	04-Feb-09	141,667	283,333	425,000		56.43	1,003,730	

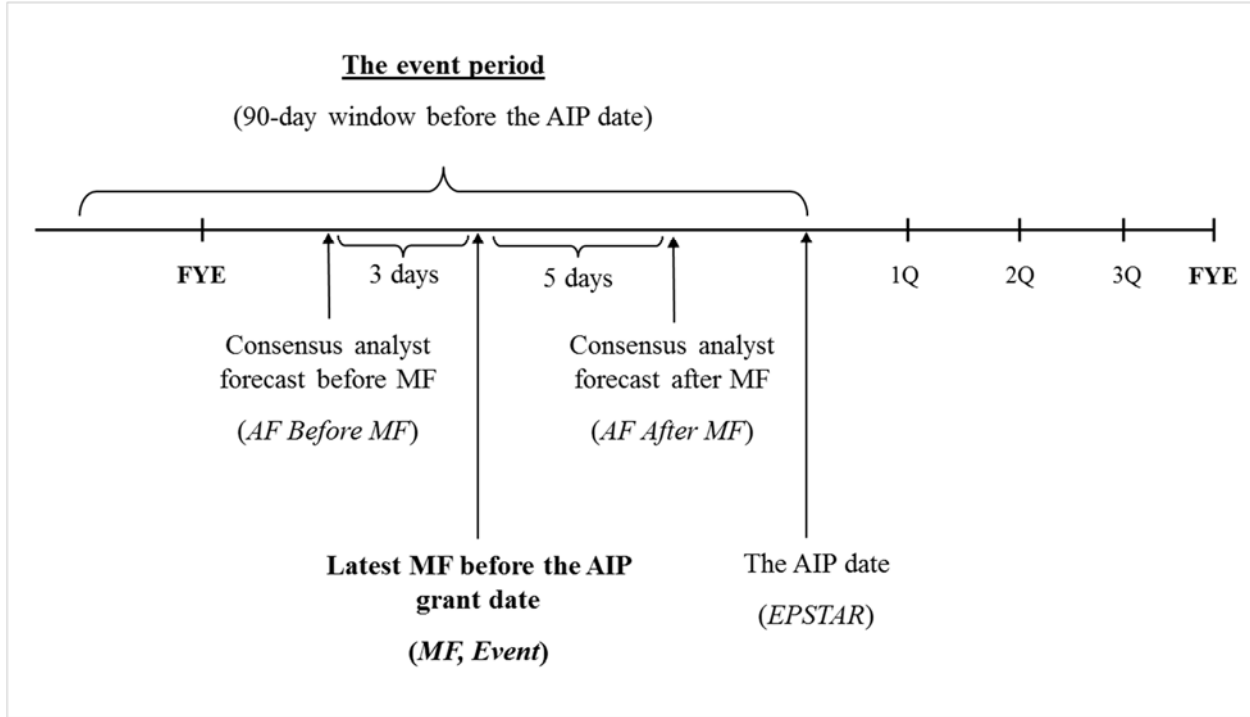
- (1) The amount shown in columns (c), (d) and (e) above represent the threshold, target and maximum payouts for the components of the 2009 cash bonuses relating to the attainment of corporate and business unit performance metrics. The actual amounts paid for 2009 relating to these components is shown in column (g) of the Summary Compensation Table.
- (2) The grant date fair values for option awards shown in the above table have been determined using the Black-Scholes option pricing model. This model, like all pricing models, requires assumptions, and therefore the amounts shown should not necessarily be considered indicative of the present value of the amounts that may actually be realized. The following assumptions were made for purposes of this valuation: expected holding period of 4.5 years for each option; stock price volatility of 39%; risk-free interest rate of 1.80%; and dividend yield of 0.70%. The grant date fair value of restricted stock awards is determined by multiplying the number of shares of stock awarded as shown in column (f) by the closing price of the company's common stock on the date of grant. A discussion of the valuation assumptions is in Note 8, Share-Based Compensation, to our consolidated financial statements included in our annual report on Form 10-K for the year ended December 31, 2009.

Figure 1 CEO Bonus



The figure represents the average dollar value of a bonus (in thousands) and the average percentage of the bonus relative to total annual compensation earned by CEOs in our sample during the fiscal year between 2006 and 2015. *Bonus* indicates the bonus amount earned by the CEO during the fiscal year (i.e., the sum of *bonus* and *noneq_incent* in Execucomp). *Bonus* is inflation-adjusted (as of the beginning of 2006), and the inflation data is obtained from CRSP-Indexes-US Treasury and Inflation. *%Bonus* is the bonus divided by total annual compensation of the CEO (i.e., *TDC1* in Execucomp).

Figure 2 Timeline



The figure represents the timeline of events. Compensation committee meetings determining AIPs are typically held during the first quarter of a fiscal year. First, we identify the date of compensation committee meetings (AIP date) in which performance targets in AIP (e.g., EPS target, *EPSTAR*) are determined. We then identify the latest management earning guidance issued during the 90-day window, i.e. the event period, before the meeting for firms with either an EPS (or earnings) performance target or a revenue performance target in bonus plans. Prevailing analyst expectations to gauge the management forecast bias are measured three days before the date of latest management earnings guidance issued in the event period (*AF Before MF*). Prevailing analyst expectations to gauge the impact of management forecast bias are measured five days after the date of latest management earnings guidance issued in the event period but before the compensation committee meeting (*AF After MF*).

Table 1 Sample Selection and Descriptive Statistics

Panel A reports the sample selection procedure. Panel B and Panel C present descriptive statistics for the Firm-MF sample and Firm-Year sample, respectively. The sample period ranges from 2006 to 2015. All variables are defined in the Appendix A.

Panel A Sample Selection					
	# Firm-Year (# Firm-MF)	EPS w/o REV	EPS and REV	REV w/o EPS	
# Firm-Year observations with available EPS and REV targets in AIP	3,786	1,720	881	1,185	
# Firm-Year observations with available EPS and REV targets in AIP, management forecasts, and financial data	2,184	1,011	673	500	
<i># Firm-MF sample</i> (Panel B, Table 1)	(11,866)	(5,581)	(3,649)	(2,636)	
Firm-year observations with available EPS targets in AIP, the Event MF, and financial data	1,173	632	541	-	
<i># Firm-Year sample</i> (Panel C, Table 1)					

Panel B Descriptive Statistics for the Firm-MF Sample						
Variables	N	Mean	Std	Q1	Median	Q3
<u>Dependent variables</u>						
<i>MF Bias_t</i>	11,866	-0.208	0.828	-0.184	-0.035	0.042
<i>AF Revision_t</i>	11,624	0.044	0.666	-0.097	0.000	0.044
<u>Independent variables</u>						
<i>Event EPS Target_t</i>	11,866	0.054	0.225	-	-	-
<i>Event EPS REV Target_t</i>	11,866	0.046	0.209	-	-	-
<i>Event REV Target_t</i>	11,866	0.034	0.182	-	-	-
<u>Control variables</u>						
<i>Size_{t-1}</i>	11,866	8.991	1.112	8.176	8.939	9.697
<i>Market-to-Book_{t-1}</i>	11,866	2.030	1.080	1.283	1.678	2.389
<i>ABRET_{t-1}</i>	11,866	0.011	0.118	-0.057	0.007	0.076
<i>ROA_{t-1}</i>	11,866	0.074	0.062	0.034	0.064	0.105
<i>EarnVol_{t-1}</i>	11,866	0.016	0.023	0.005	0.009	0.016
<i>Loss_{t-1}</i>	11,866	0.052	0.223	-	-	-
<i>Litigation Risk_t</i>	11,866	0.265	0.441	-	-	-
<i>Horizon_t</i>	11,866	0.613	0.416	0.322	0.642	0.869
<u>Variables for cross-sectional tests</u>						
<i>AF Bias_t</i>	9,206	0.058	1.792	-0.475	-0.028	0.430
<i>Target Bonus_{t-1}</i>	11,866	0.453	0.304	0.316	0.451	0.592
<i>Miss EPS Target_{t-1}</i>	6,972	0.310	0.463	0.000	0.000	1.000
<i>INST TOP5_{t-1}</i>	11,866	0.014	0.021	0.000	0.012	0.020
<i>INST DED_{t-1}</i>	9,231	0.004	0.012	0.000	0.001	0.005
<i>INST PNEB_{t-1}</i>	9,231	0.004	0.006	0.000	0.003	0.005
<i>Shareholder Proposal_{t-1}</i>	11,866	0.063	0.244	-	-	-

Panel C Descriptive statistics for the Firm-Year Sample

Variables	N	Mean	Std	Q1	Median	Q3
<u>Dependent variables</u>						
<i>EPSTAR_t</i>	1,173	6.717	2.634	5.272	6.376	7.780
<i>Actual less Target Payout_t</i>	996	0.138	0.389	-0.053	0.119	0.333
<u>Independent variables</u>						
<i>AF before MF_t</i>	1,173	7.091	2.871	5.447	6.658	8.079
<i>MF_t</i>	1,173	6.790	3.061	5.098	6.393	7.814
<i>MF Bias_t</i>	1,173	-0.333	0.920	-0.368	-0.110	0.023
<i>AF After MF_t</i>	1,173	6.942	2.441	5.428	6.582	7.893
<i>EPSTAR_{t-1}</i>	848	6.801	2.365	5.373	6.534	7.784
<i>Actual EPS_t</i>	1,173	6.885	2.582	5.349	6.548	7.855
<u>Control variables</u>						
<i>Size_{t-1}</i>	1,173	9.015	1.136	8.181	8.923	9.733
<i>Market-to-Book_{t-1}</i>	1,173	2.046	1.081	1.307	1.706	2.430
<i>ABRET_{t-1}</i>	1,173	0.008	0.107	-0.048	0.005	0.067
<i>ROA_{t-1}</i>	1,173	0.077	0.063	0.037	0.068	0.107
<i>EarnVol_{t-1}</i>	1,173	0.016	0.022	0.005	0.009	0.016
<i>Loss_{t-1}</i>	1,173	0.049	0.215	-	-	-
<i>Litigation Risk_t</i>	1,173	0.242	0.429	-	-	-

Table 2 Correlations

This table reports Pearson correlations. Sample period ranges from 2006 to 2015. Panel A presents Pearson correlations for Firm-MF sample, and Panel B presents Pearson correlations for Firm-Year sample. Significance level at 5% is bolded. All variables are defined in the Appendix A.

Panel A Firm-MF Sample										
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) <i>MF Bias_t</i>	-									
(2) <i>AF Revision_t</i>	0.23	-								
(3) <i>Event EPS Target_t</i>	-0.05	-0.05	-							
(4) <i>Event EPS REV Target_t</i>	-0.02	-0.03	-0.05	-						
(5) <i>Event REV Target_t</i>	0.00	-0.02	-0.04	-0.04	-					
(6) <i>Size_{t-1}</i>	0.09	-0.03	-0.04	0.05	0.00	-				
(7) <i>Market-to-Book_{t-1}</i>	-0.05	0.01	-0.04	0.05	0.02	0.22	-			
(8) <i>ABRET_{t-1}</i>	-0.01	0.04	-0.01	0.00	0.00	0.01	0.07	-		
(9) <i>ROA_{t-1}</i>	-0.08	-0.01	-0.02	0.04	0.00	0.16	0.67	-0.01	-	
(10) <i>EarnVol_{t-1}</i>	-0.01	0.03	-0.04	0.04	0.00	-0.08	0.16	0.01	0.01	-
(11) <i>Loss_{t-1}</i>	0.01	-0.01	-0.01	0.00	0.01	-0.15	-0.07	0.03	-0.43	0.26
(12) <i>Litigation Risk_t</i>	0.01	0.03	-0.07	0.05	0.08	0.14	0.21	0.01	0.08	0.20
(13) <i>Horizon_t</i>	0.01	-0.03	0.20	0.18	0.15	0.06	-0.03	0.02	-0.03	0.07
(14) <i>AF Bias_t</i>	0.00	-0.44	0.04	-0.01	0.01	-0.03	-0.09	-0.15	-0.04	0.04
(15) <i>Target Bonus_{t-1}</i>	-0.02	0.02	0.01	-0.01	0.03	-0.06	-0.10	-0.01	-0.09	0.00
(16) <i>Miss EPS Target_{t-1}</i>	-0.02	-0.07	0.02	0.01	0.02	-0.12	-0.08	-0.02	-0.12	-0.04
(17) <i>INST TOP5_{t-1}</i>	-0.02	0.06	-0.01	-0.01	0.00	-0.14	0.01	0.00	-0.01	0.06
(18) <i>INST DED_{t-1}</i>	0.00	0.01	0.00	-0.01	-0.01	-0.09	0.09	0.00	0.03	0.12
(19) <i>INST PNEB_{t-1}</i>	-0.06	0.04	0.00	-0.03	0.01	0.01	-0.06	0.00	0.00	-0.08
(20) <i>Shareholder Proposal_{t-1}</i>	0.03	-0.01	0.00	-0.01	0.03	-0.02	-0.06	0.00	-0.08	0.05

Panel A Firm-MF Sample, cont'd

Variables	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
(1) <i>MF Bias_t</i>										
(2) <i>AF Revision_t</i>										
(3) <i>Event EPS Target_t</i>										
(4) <i>Event EPS REV Target_t</i>										
(5) <i>Event REV Target_t</i>										
(6) <i>Size_{t-1}</i>										
(7) <i>Market-to-Book_{t-1}</i>										
(8) <i>ABRET_{t-1}</i>										
(9) <i>ROA_{t-1}</i>										
(10) <i>EarnVol_{t-1}</i>										
(11) <i>Loss_{t-1}</i>	-									
(12) <i>Litigation Risk_t</i>	0.05	-								
(13) <i>Horizon_t</i>	-0.01	0.00	-							
(14) <i>AF Bias_t</i>	-0.02	-0.09	0.04	-						
(15) <i>Target Bonus_{t-1}</i>	0.08	0.01	-0.03	0.00	-					
(16) <i>Miss EPS Target_{t-1}</i>	0.11	-0.01	-0.06	0.12	0.30	-				
(17) <i>INST TOP5_{t-1}</i>	0.02	-0.03	-0.01	0.01	0.01	0.01	-			
(18) <i>INST DED_{t-1}</i>	0.03	0.01	0.00	0.03	0.00	-0.03	0.63	-		
(19) <i>INST PNEB_{t-1}</i>	-0.03	-0.12	0.00	0.01	0.05	0.00	0.46	0.35	-	
(20) <i>Shareholder Proposal_{t-1}</i>	0.03	0.01	0.04	0.05	-0.01	0.01	-0.02	0.00	0.00	-

Panel B Firm-Year Sample

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) $EPSTAR_t$	-														
(2) $AF\ Before\ MF_t$	0.69	-													
(3) MF_t	0.65	0.90	-												
(4) $MF\ Bias_t$	0.02	-0.16	0.20	-											
(5) $AF\ After\ MF_t$	0.78	0.90	0.83	-0.05	-										
(6) $Actual\ less\ Target\ Payout_t$	-0.13	-0.13	-0.12	0.01	-0.10	-									
(7) $EPSTAR_{t-1}$	0.60	0.45	0.46	0.04	0.49	-0.01	-								
(8) $Actual\ EPS_t$	0.64	0.71	0.66	0.03	0.83	0.16	0.46	-							
(9) $Size_{t-1}$	-0.11	-0.08	-0.05	0.09	-0.09	0.07	-0.08	-0.10	-						
(10) $Market-to-Book_{t-1}$	-0.35	-0.36	-0.35	0.01	-0.38	-0.02	-0.33	-0.31	0.20	-					
(11) $ABRET_{t-1}$	-0.18	-0.19	-0.16	0.05	-0.18	0.14	-0.02	-0.07	-0.01	0.01	-				
(12) ROA_{t-1}	-0.14	-0.15	-0.17	-0.01	-0.14	-0.06	-0.15	-0.10	0.14	0.72	0.01	-			
(13) $EarnVol_{t-1}$	0.02	0.01	-0.01	-0.06	0.02	0.01	0.02	0.05	-0.02	0.16	-0.01	0.04	-		
(14) $Loss_{t-1}$	0.03	0.02	0.01	-0.02	0.02	0.03	0.05	0.05	-0.13	-0.10	0.01	-0.41	0.25	-	
(15) $Litigation\ Risk_t$	-0.08	-0.14	-0.12	0.07	-0.10	-0.02	-0.05	-0.07	0.22	0.18	-0.03	0.08	0.18	0.05	-

Table 3 Determinants of the level of EPS performance targets in AIPs

This table presents the estimation results from the following regression model using Firm-Year sample.

$$\begin{aligned}
 EPSTAR_t = & \beta_1 AF \text{ Before } MF_t + \beta_2 MF_t + \beta_3 AF \text{ After } MF_t + \beta_4 EPSTAR_{t-1} + \beta_5 Size_{t-1} \\
 & + \beta_6 Market\text{-}to\text{-}Book_{t-1} + \beta_7 ABRET_{t-1} + \beta_8 ROA_{t-1} + \beta_9 EarnVol_{t-1} + \beta_{10} Loss_{t-1} \\
 & + \beta_{11} Litigation Risk_t + \varepsilon_t
 \end{aligned}$$

$EPSTAR_t$ is measured as the EPS performance target in AIPs divided by stock price, and multiplied by 100. $AF \text{ Before } MF_t$ is defined as the mean consensus analyst forecast three days before the date of management forecast divided by stock price, and multiplied by 100. MF_t is defined as the event-window management earnings forecast divided by stock price, and multiplied by 100. $AF \text{ After } MF_t$ is defined as the mean consensus analyst forecast five days after the date of management forecast but before the compensation meetings divided by stock price, and multiplied by 100. $EPSTAR_{t-1}$ is the lagged $EPSTAR_t$ variable. Test statistics for the coefficient difference in column 6 are summarized toward the bottom of the table. All other variables are defined in the Appendix A. Standard errors are clustered by firm. Robust t-statistics are in parentheses. *, **, and *** represent significance level at the 10%, 5%, and 1%, respectively.

Variables	$EPSTAR_t$					
	(1)	(2)	(3)	(4)	(5)	(6)
$AF \text{ Before } MF_t$	0.537*** (6.886)	-	-	-0.086* (-1.688)	-	-
MF_t	-	0.459*** (6.472)	-	-	0.012 (0.220)	-
$AF \text{ After } MF_t$	-	-	0.790*** (8.204)	0.879*** (10.111)	0.778*** (8.496)	0.680*** (5.422)
$EPSTAR_{t-1}$	-	-	-	-	-	0.305*** (4.473)
$Size_{t-1}$	-0.054 (-0.628)	-0.071 (-0.813)	-0.051 (-0.676)	-0.047 (-0.615)	-0.053 (-0.688)	-0.040 (-0.606)
$Market\text{-}to\text{-}Book_{t-1}$	-0.505*** (-4.015)	-0.630*** (-5.028)	-0.241** (-1.979)	-0.245** (-2.011)	-0.241** (-1.980)	-0.065 (-0.624)
$ABRET_{t-1}$	-1.859*** (-2.872)	-2.539*** (-3.920)	-1.240* (-1.917)	-1.306** (-1.981)	-1.237* (-1.905)	-1.199* (-1.782)
ROA_{t-1}	4.750** (2.186)	6.867*** (2.844)	1.249 (0.728)	1.141 (0.659)	1.298 (0.731)	-0.794 (-0.602)
$EarnVol_{t-1}$	2.089 (0.518)	4.659 (1.069)	0.315 (0.088)	0.399 (0.113)	0.348 (0.096)	-3.269 (-1.161)
$Loss_{t-1}$	0.356 (0.978)	0.522 (1.380)	0.137 (0.472)	0.130 (0.448)	0.141 (0.483)	-0.133 (-0.468)
$Litigation Risk_t$	0.200 (0.834)	0.143 (0.557)	0.019 (0.093)	-0.005 (-0.026)	0.021 (0.103)	-0.070 (-0.437)
Fixed Effects (Industry, Year)	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	1,173	1,173	1,173	1,173	1,173	848
Adjusted R squared	0.496	0.473	0.613	0.614	0.613	0.723
Coefficient difference tests in column (6)				<u>Coeff Diff</u>	<u>F-Stat</u>	<u>P-Value</u>
$AF \text{ After } MF_t = EPSTAR_t$				0.375	4.28	0.040

Table 4 The effects of management forecast bias on analyst forecast revisions

This table presents the estimation results from the following regression model using Firm-MF sample.

$$AF\ Revision_t = \beta_1 MF\ Bias_t + \beta_2 Event\ EPS\ Target_t + \beta_3 MF\ Bias_t \times Event\ EPS\ Target_t \\ + \beta_4 Size_{t-1} + \beta_5 Market-to-Book_{t-1} + \beta_6 ABRET_{t-1} + \beta_7 ROA_{t-1} + \beta_8 EarnVol_{t-1} + \beta_9 Loss_{t-1} \\ + \beta_{10} Litigation\ Risk_t + \beta_{11} Horizon_t + \varepsilon_t$$

AF Revision_t is defined as the mean consensus analyst forecast five days after the date of management forecast less the mean consensus analyst forecast three days before the date of management forecast scaled by stock price, and multiplied by 100. All variables are defined in the Appendix A. Standard errors are clustered by firm. Robust t-statistics are in parentheses. *, **, and *** represent significance level at the 10%, 5%, and 1%, respectively.

Variables	<i>AF Revision_t</i>		
	(1)	(2)	(3)
<i>MF Bias_t</i>	0.461*** (11.307)	-	0.458*** (10.776)
<i>Event EPS Target_t</i>	-	-0.071** (-2.276)	0.002 (0.081)
<i>MF Bias_t × Event EPS Target_t</i>	-	-	0.030 (0.778)
<i>Size_{t-1}</i>	-0.218*** (-3.682)	-0.133*** (-2.911)	-0.218*** (-3.685)
<i>Market-to-Book_{t-1}</i>	-0.047 (-1.141)	-0.005 (-0.159)	-0.047 (-1.135)
<i>ABRET_{t-1}</i>	0.021 (0.503)	0.040 (0.783)	0.019 (0.463)
<i>ROA_{t-1}</i>	-0.408 (-1.381)	-0.200 (-0.821)	-0.411 (-1.387)
<i>EarnVol_{t-1}</i>	1.137 (0.849)	0.866 (0.798)	1.134 (0.848)
<i>Loss_{t-1}</i>	-0.074* (-1.819)	-0.005 (-0.119)	-0.074* (-1.819)
<i>Litigation Risk_t</i>	0.158 (1.374)	0.067 (0.689)	0.158 (1.376)
<i>Horizon_t</i>	-0.021 (-1.115)	-0.019 (-0.842)	-0.018 (-1.029)
Fixed Effects (Firm, Year, FQ)	Yes	Yes	Yes
Number of observations	11,624	11,624	11,624
Adjusted R squared	0.616	0.412	0.616

Table 5 Management earnings forecast bias before the approval of AIPs

This table presents the estimation results from the following regression model using Firm-MF sample.

$$MF\ Bias_t = \beta_1 INDVAR_t + \beta_2 Size_{t-1} + \beta_3 Market-to-Book_{t-1} + \beta_4 ABRET_{t-1} + \beta_5 ROA_{t-1} + \beta_6 EarnVol_{t-1} + \beta_7 Loss_{t-1} + \beta_8 Litigation\ Risk_t + \beta_9 Horizon_t + \varepsilon_t$$

MF Bias_t is measured as the management earnings forecast less the prevailing mean consensus analyst forecast three days before the date of management forecast scaled by stock price, and multiplied by 100. In Panel A, *INDVAR_t* represents *Event EPS Target_t*, *Event EPS REV Target_t*, or *Event REV Target_t* in column 1, column 2, and column 3, respectively. In column 4, all three variables are included simultaneously. In Panel B, column 1 (column 2) uses the AIP observations approved without (with) long-term equity grants. In Panel C, *INDVAR_t* represents *Assigned Event EPS Target_t*, *Assigned Event EPS REV Target_t*, or *Assigned Event REV Target_t* in column 1, column 2, and column 3, respectively. In column 4, all three variables are included for estimation. In Panel C, the sample period is between 2001 and 2005 and we assume that the performance targets after 2006 are used before 2006. We assign hypothetical grant dates of bonus plans based on the typical grant date for each firm after 2006. In Panel D, *Alternative MF Bias_t* is measured as the difference between management alternative-annual earnings forecasts and analyst consensus alternative-annual earnings forecasts, scaled by stock price and multiplied by 100. Management alternative-annual earnings forecasts are sum of quarterly earnings forecasts for four quarters ending with three alternative fiscal year end other than the actual fiscal year end. If the portion of the alternative-annual earnings are realized at the time of forecasts issued, then we use the realized earnings instead. Similarly, consensus analyst alternative-annual earnings forecasts use the consensus analyst quarterly earnings forecasts measured three days before the corresponding quarterly management earnings forecasts. Control variables consisting of *Size*, *Market-to-Book*, *ABRET*, *ROA*, *EarnVol*, *Loss*, *Litigation Risk*, and *Horizon* are omitted from reporting in Panels B–D for brevity. All other variables are defined in the Appendix A. Standard errors are clustered by firm. Robust t-statistics are in parentheses. *, **, and *** represent significance level at the 10%, 5%, and 1%, respectively.

Panel A The effects of AIPs on management forecast bias

Independent Variables	<i>MF Bias_t</i>			
	(1)	(2)	(3)	(4)
<i>Event EPS Target_t</i>	-0.160*** (-4.011)	-	-	-0.169*** (-4.072)
<i>Event EPS REV Target_t</i>	-	-0.041 (-0.961)	-	-0.068 (-1.498)
<i>Event REV Target_t</i>	-	-	0.039 (0.703)	0.001 (0.021)
<i>Size_{t-1}</i>	0.197** (2.574)	0.195** (2.564)	0.195** (2.565)	0.196** (2.576)
<i>Market-to-Book_{t-1}</i>	0.074* (1.767)	0.074* (1.779)	0.074* (1.778)	0.074* (1.771)
<i>ABRET_{t-1}</i>	0.048 (0.781)	0.051 (0.832)	0.052 (0.845)	0.047 (0.768)
<i>ROA_{t-1}</i>	0.436 (0.869)	0.436 (0.870)	0.437 (0.873)	0.437 (0.870)
<i>EarnVol_{t-1}</i>	-0.244 (-0.303)	-0.217 (-0.270)	-0.208 (-0.258)	-0.258 (-0.322)
<i>Loss_{t-1}</i>	0.134** (2.085)	0.133** (2.060)	0.133** (2.063)	0.134** (2.084)
<i>Litigation Risk_t</i>	-0.201* (-1.860)	-0.194* (-1.818)	-0.195* (-1.825)	-0.202* (-1.875)
<i>Horizon_t</i>	0.130** (2.490)	0.120** (2.243)	0.117** (2.205)	0.134** (2.523)
Fixed Effects (Firm, Year, FQ)	Yes	Yes	Yes	Yes
Number of observations	11,866	11,866	11,866	11,866
Adjusted R squared	0.375	0.374	0.374	0.376

<u>Coeff. Diff. tests in col. (4)</u>	<u>Coeff. Diff.</u>	<u>F-Stat.</u>	<u>p-Value</u>
β_1 (Event EPS Target _t) = β_2 (Event EPS REV Target _t)	-0.101	3.720	0.054
β_1 (Event EPS REV Target _t) = β_3 (Event REV Target _t)	-0.067	1.328	0.250
β_2 (Event EPS Target _t) = β_3 (Event REV Target _t)	-0.170	7.034	0.008

Panel B AIPs and long-term incentive plans (LTIP)

Independent Variables	<i>MF Bias_t</i>	
	(1)	(2)
	<u>AIP only</u>	<u>AIP w/ LTIP</u>
<i>Event EPS Target_t</i>	-0.203** (-2.037)	-0.167*** (-3.646)
<i>Event EPS REV Target_t</i>	-0.157 (-0.936)	-0.049 (-1.164)
<i>Event REV Target_t</i>	0.039 -0.283	-0.001 (-0.016)
Controls	Included	Included
Fixed Effects (Firm, Year, FQ)	Yes	Yes
Number of observations	2,175	9,691
Adjusted R squared	0.378	0.388
<u>Coeff. Diff. between col. (1) and col. (2)</u>	<u>Coeff. Diff.</u>	<u>p-Value</u>
<i>Event EPS Target_t</i>	-0.036	0.736
<i>Event EPS REV Target_t</i>	-0.109	0.513
<i>Event REV Target_t</i>	0.040	0.788

Panel C The effects of AIPs on management forecast bias before 2006

Variables	<i>MF Bias_t</i>			
	(1)	(2)	(3)	(4)
<i>Assigned Event EPS Target_t</i>	0.041 (0.386)	-	-	0.107 (0.968)
<i>Assigned Event EPS REV Target_t</i>	-	0.377 (0.955)	-	0.428 (1.070)
<i>Assigned Event REV Target_t</i>	-	-	0.135 (1.032)	0.195 (1.491)
Controls	Included	Included	Included	Included
Fixed Effects (Firm, Year, FQ)	Yes	Yes	Yes	Yes
Number of observations	5,570	5,570	5,570	5,570
Adjusted R squared	0.815	0.815	0.815	0.815

Panel D The effects of AIPs on alternative management forecast bias

Variables	<i>Alternative MF Bias_t</i>			
	(1)	(2)	(3)	(4)
<i>Event EPS Target_t</i>	-0.050 (-0.721)	-	-	-0.022 (-0.292)
<i>Event EPS REV Target_t</i>	-	0.006 (0.087)	-	0.023 (0.304)
<i>Event REV Target_t</i>	-	-	0.101*	0.103

	-	-	(1.901)	(1.583)
Controls	Included	Included	Included	Included
Fixed Effects (Firm, Year, FQ)	Yes	Yes	Yes	Yes
Number of observations	3,801	3,801	3,801	3,801
Adjusted R squared	0.498	0.498	0.498	0.498

Table 6 Cross-sectional variation: Management heterogeneous incentives

This table presents the estimation results from the following regression model using Firm-MF sample.

$$MF\ Bias_t = \beta_1 Event\ EPS\ Target_t + \beta_2 Size_{t-1} + \beta_3 Market\text{-}to\text{-}Book_{t-1} + \beta_4 ABRET_{t-1} + \beta_5 ROA_{t-1} + \beta_6 EarnVol_{t-1} + \beta_7 Loss_{t-1} + \beta_8 Litigation\ Risk_t + \beta_9 Horizon_t + \varepsilon_t$$

In column 1, 2, and 3, we interact *Even EPS target_t* with *High AF Bias_t*, *High Target Bonus_{t-1}*, and *Miss EPS Target_{t-1}*, respectively. *High AF Bias_t* is an indicator variable equal to one if the mean consensus analyst forecast three days before the date of event management forecast less the actual EPS figure in period *t* divided by stock price is above the sample median, zero otherwise. *High Target Bonus_{t-1}* is an indicator variable equal to one if non-equity incentive target amount in period *t-1* divided by cash compensation in period *t-1* is above the sample median, zero otherwise. *Miss EPS Target_{t-1}* is an indicator variable equal to one if the firm missed the EPS performance target in period *t-1*, zero otherwise. All variables are defined in the Appendix A. Standard errors are clustered by firm. Robust t-statistics are in parentheses. *, **, and *** represent significance level at the 10%, 5%, and 1%, respectively.

Variables	<i>MF Bias_t</i>		
	(1)	(2)	(3)
<i>Event EPS Target_t</i>	0.047 (1.251)	-0.045 (-1.064)	-0.107** (-2.580)
<i>High AF Bias_t</i>	-0.061** (-2.432)	-	-
<i>Event EPS Target_t × High AF Bias_t</i>	-0.432*** (-6.636)	-	-
<i>High Target Bonus_{t-1}</i>	-	-0.011 (-0.463)	-
<i>Event EPS Target_t × High Target Bonus_{t-1}</i>	-	-0.258*** (-3.902)	-
<i>Miss EPS Target_{t-1}</i>	-	-	0.008 (0.188)
<i>Event EPS Target_t × Miss EPS Target_{t-1}</i>	-	-	-0.220** (-2.390)
Controls	Included	Included	Included
Fixed Effects (Firm, Year, FQ)	Yes	Yes	Yes
Number of observations	9,206	11,866	6,972
Adjusted R squared	0.399	0.377	0.402

Table 7 Cross-sectional variation: Shareholder activism

This table presents the estimation results from the following regression model using Firm-MF sample.

$$MF\ Bias_t = \beta_1 Event\ EPS\ Target_t + \beta_2 Size_{t-1} + \beta_3 Market\ to\ Book_{t-1} + \beta_4 ABRET_{t-1} + \beta_5 ROA_{t-1} + \beta_6 EarnVol_{t-1} + \beta_7 Loss_{t-1} + \beta_8 Litigation\ Risk_t + \beta_9 Horizon_t + \varepsilon_t$$

In column 1, 2, 3, and 4, we interact *Event EPS Target_t* with *High INST TOP5_{t-1}*, *High INST DED_{t-1}*, *High INST PNEB_{t-1}*, or *Shareholder Proposal_{t-1}*, respectively. *High INST TOP5_{t-1}* is an indicator variable equal to one if the concentration of top-five institutional ownership for firm *i* in period *t-1* exceeds its sample median, zero otherwise. *High INST DED_{t-1}* is an indicator variable equal to one if the concentration of dedicated institutional ownership for firm *i* in period *t-1* exceeds its sample median, zero otherwise. *High INST PNEB_{t-1}* is an indicator variable equal to one if the concentration of pensions', endowments', or bank trusts' institutional ownership for firm *i* in period *t-1* exceeds its sample median, zero otherwise. *Shareholder Proposal_{t-1}* is an indicator variable equal to one if a firm has received votes for (against) shareholder-proposed (management-sponsored) compensation-related issues that exceed 30% of total votes in the current or period *t-1*, zero otherwise. All variables are defined in the Appendix A. Standard errors are clustered by firm. Robust t-statistics are in parentheses. *, **, and *** represent significance level at the 10%, 5%, and 1%, respectively.

Variables	<i>MF Bias_t</i>			
	(1)	(2)	(3)	(4)
<i>Event EPS Target_t</i>	-0.072 (-1.639)	-0.093* (-1.734)	-0.077* (-1.679)	-0.146*** (-3.533)
<i>High INST TOP5_{t-1}</i>	-0.000 (-0.009)	-	-	-
<i>Event EPS Target_t × High INST TOP5_{t-1}</i>	-0.181** (-2.382)	-	-	-
<i>High INST DED_{t-1}</i>	-	-0.014 (-0.353)	-	-
<i>Event EPS Target_t × High INST DED_{t-1}</i>	-	-0.144* (-1.687)	-	-
<i>High INST PNEB_{t-1}</i>	-	-	0.014 (0.456)	-
<i>Event EPS Target_t × High INST PNEB_{t-1}</i>	-	-	-0.163** (-2.196)	-
<i>Shareholder Proposal_{t-1}</i>	-	-	-	0.033 (0.690)
<i>Event EPS Target_t × Shareholder Proposal_{t-1}</i>	-	-	-	-0.229* (-1.814)
Controls	Included	Included	Included	Included
Fixed Effects (Firm, Year, FQ)	Yes	Yes	Yes	Yes
Number of observations	11,866	9,225	9,225	11,866
Adjusted R squared	0.376	0.428	0.428	0.376

Table 8 The effect of management forecasts and performance targets on ex-post payout

This table presents the estimation results from the following regression model using Firm-Year sample.

$$DEPVAR_t = \beta_1 INDVAR_t + \beta_2 Actual\ EPS_t + \beta_3 Size_{t-1} + \beta_4 Market\ to\ Book_{t-1} + \beta_5 ABRET_{t-1} + \beta_6 ROA_{t-1} + \beta_7 EarnVol_{t-1} + \beta_8 Loss_{t-1} + \beta_9 Litigation\ Risk_t + \varepsilon_t$$

$DEPVAR_t$ is *Actual less Target Payout_t*, which is measured as the non-equity incentive payout less non-equity incentive target in period t divided by cash compensation in period $t-1$. In column 1, $INDVAR_t$ represents *AF Before MF_t* and *MF Bias_t*. In column 2, $INDVAR_t$ represents *MF Bias_t*, and *AF After MF_t*. In column 3, $INDVAR_t$ represents *MF Bias_t*, and $EPSTAR_t$. *Actual EPS_t* is the actual IBES-reported EPS for firm i in period t divided by stock price, and multiplied by 100. All variables are defined in the Appendix A. Standard errors are clustered by firm. Robust t-statistics are in parentheses. *, **, and *** represent significance level at the 10%, 5%, and 1%, respectively.

Variables	<i>Actual less Target Payout_t</i>		
	(1)	(2)	(3)
<i>AF Before MF_t</i>	-0.063*** (-6.029)	-	-
<i>MF Bias_t</i>	-0.043** (-2.478)	-0.025 (-1.520)	-0.004 (-0.244)
<i>AF After MF_t</i>	-	-0.117*** (-7.746)	-
$EPSTAR_t$	-	-	-0.047*** (-5.446)
<i>Actual EPS_t</i>	0.076*** (8.097)	0.116*** (9.207)	0.058*** (5.966)
$Size_{t-1}$	0.046*** (2.916)	0.046*** (2.981)	0.038** (2.335)
<i>Market-to-Book_{t-1}</i>	0.030 (1.465)	0.011 (0.544)	0.033 (1.558)
$ABRET_{t-1}$	0.293** (2.279)	0.175 (1.397)	0.351*** (2.759)
ROA_{t-1}	-1.263*** (-3.449)	-1.006*** (-2.859)	-1.223*** (-3.148)
$EarnVol_{t-1}$	-0.591 (-0.873)	-0.383 (-0.565)	-0.530 (-0.673)
$Loss_{t-1}$	-0.084 (-0.871)	-0.089 (-0.967)	-0.072 (-0.750)
<i>Litigation Risk_t</i>	-0.019 (-0.344)	-0.009 (-0.166)	-0.005 (-0.095)
Fixed Effects (Industry, Year)	Yes	Yes	Yes
Number of observations	996	996	996
Adjusted R squared	0.186	0.233	0.154