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Does the cessation of quarterly earnings guidance reduce investors' short-termism?

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ABSTRACT

The practice of providing quarterly earnings guidance has been criticized for encouraging investors to fixate on short-term earnings and encouraging managerial myopia. Using data from the post–Regulation Fair Disclosure period, we examine whether the cessation of quarterly earnings guidance reduces short-termism among investors. We show that, after guidance cessation, investors in firms that stop quarterly guidance are composed of a larger (smaller) proportion of long-term (short-term) institutions, put more (less) weight on long-term (short-term) earnings in firm valuation, become more (less) sensitive to analysts' long-term (short-term) earning forecast revisions, and are less likely to dismiss chief executive officers for missing quarterly earnings targets by small amounts, relative to investors in firms that continue to issue quarterly earnings guidance. Our study provides new evidence of the benefit of stopping quarterly earnings guidance, that is, the reduction of short-termism among investors.

Keywords Voluntary disclosure · Earnings guidance · Management forecasts · Investor short-termism · Managerial myopia

JEL Classification M40 · M41

1 Introduction

Earnings guidance is a voluntary disclosure that managers provide through forecasts of forthcoming performance.[1] Disclosure theories posit that voluntary disclosures reduce information asymmetry between insiders and outside investors (Ajinkya and Gift 1984; Coller and Yohn 1997; Verrecchia 2001) and reduce a firm's cost of capital (Diamond and Verrecchia 1991; Leuz and Verrechia 2000). Proponents argue that earnings guidance could reduce stock price volatility and surprises at earnings announcements and is good practice (Graham et al. 2005). Critics argue that quarterly earnings guidance attracts short-term-oriented investors who fixate on short-term performance, which in turn fuels managerial myopia (Graham et al. 2005; Ernst & Young 2014).[2] The CFA Institute and the Business Roundtable Institute, among others, have advocated ending the practice of providing quarterly earning guidance (CFA Institute 2006). The CFA Institute defines short-termism as the excessive focus that corporate leaders, investors, and analysts place on short-term earnings at the expense of long-term value creation. Investors' focus on short-term earnings can motivate managers to meet the earnings guidance, even if doing so would require costly changes in real activities that run counter to maximizing long-term growth and shareholder value (Graham et al. 2005; Houston et al. 2010).

Because of the criticism that quarterly guidance encourages investors and managers to focus on short-term performance at the expense of long-term value creation, several high-profile companies, including McDonald's, Coca-Cola, and AT&T, have announced the discontinuation of quarterly earnings guidance. Chief Financial Officer Gary Fayard explained Coca-Cola's

[1] Earnings guidance may represent any manager-provided information that either directly or indirectly guides outsiders in their assessment of a firm's future earnings (Miller 2002). In this paper, management earnings guidance refers to explicit earnings forecasts issued by managers only.

[2] During Google's initial public offering in 2004, for example, the company's management explicitly declined to provide frequent earnings guidance to analysts, saying that it did not want to lose focus on its long-term goals. It also requested that its shareholders take a long-term view.

decision to stop giving earnings guidance: "We believe that establishing short-term guidance prevents a more meaningful focus on the strategic initiatives the company is taking to build its business and succeed over the long term" (PR Newswire 2002).

Prior studies examine how quarterly earnings guidance influences managerial decision making, but the empirical link between quarterly guidance and managerial myopia remains weak. While Cheng et al. (2007) document some evidence suggesting a link between quarterly guidance and managerial myopia, other studies do not. Houston et al. (2010), for example, find that firms that discontinue quarterly guidance do not increase their capital expenditure and research and development (R&D) investment.[3] Call et al. (2014) show that firms providing quarterly guidance have lower levels of earnings management (measured by abnormal accruals or abnormal revenues) than firms that do not provide quarterly guidance.

We shift the focus of the inquiry and examine the effect of quarterly guidance cessation on investor myopia. We believe that examining investor myopia around guidance cessation has several advantages. First, critics lament that short-term-oriented investors, who are impatient with firms' strategy and ignore their potential to create long-term value, are attracted to firms that provide quarterly guidance (Karageorgiou et al. 2014). This pressures managers to cater to these investors. Stopping guidance naturally would be expected to change the firm's investor composition toward more long-term-oriented investors and, in turn, change how investors behave. Second, managerial short-termism can take many different forms and is often invisible (Stein 1988). Stein (1989, p. 664) argues: "It is precisely those investments that are most easily and accurately summarized on an accounting statement—e.g., expenditures on plant and equipment—which are

[3] Houston et al. (2010) show a tentative increase in R&D expenditures when an ordinary least squares (OLS) estimation is used but no increase in R&D when a robust regression method is used. They do not find any increase in capital expenditure using either OLS or robust regression.

least likely to be sacrificed in the quest for higher stock prices." This may explain the mixed evidence about whether quarterly guidance is associated with earnings management, capital expenditure, and R&D investment (Cheng et al. 2007; Houston et al. 2010; Call et al. 2014). Departing from the literature, we examine a number of measures that provide evidence of myopia exhibited by investors, instead of by managers: investor composition (the relative proportion of investors who are long-term or short-term oriented), the relative valuation of short-term versus long-term earnings, stock return sensitivity to analysts' short-term versus long-term earnings forecast revisions, and tolerance for chief executive officers missing quarterly earnings targets by small amounts. These measures reflect the degree of investor short-termism and are not likely to be subject to the Stein (1989) criticism. Third, by examining the consequences of an event that represents a shift in a firm's voluntary disclosure strategy (i.e., quarterly guidance cessation), we can leverage a difference-in-differences research design. Along with the use of matched controls, a difference-in-differences design allows a more compelling causal inference than a simple cross-sectional comparison between guiders and nonguiders can provide.

Using data from the post-Regulation Fair Disclosure (post-Reg FD) period, we show that, after guidance cessation, investors in firms that stop quarterly guidance are composed of a larger (smaller) proportion of long-term (short-term) institutions, put more (less) weight on long-term (short-term) earnings in firm valuation, become more (less) sensitive to analysts' long-term (short-term) earnings revisions, and are less likely to dismiss CEOs for missing quarterly earnings targets by small amounts relative to investors in firms that continue to issue quarterly earnings guidance. We also examine changes in managerial myopia after guidance cessation because investor myopia can induce managerial myopia. Using the same difference-in-differences design as in the analysis of investor short-termism, we find some evidence of a

reduction in real activities-based earnings management and increases in capital expenditure and R&D investment.[4] These results generally support the assertion that stopping quarterly guidance reduces not only investor but also managerial myopia.

Our study contributes to the literature that examines the economic consequences of (stopping) short-term guidance. Prior studies focus on the relation between short-term guidance and management myopia, and the evidence is mixed (Cheng et al. 2007; Call et al. 2014; Chen et al. 2015). Quarterly earnings guidance attracts short-term-oriented investors, and investor myopia can fuel managerial myopia. The cessation of quarterly guidance can increase the proportion of investors with a long-term focus and reduce investor myopia, which could in turn limit managerial myopia. By examining the consequences of quarterly earnings guidance cessation from investors' perspective, we provide new evidence that substantiates the benefits of quarterly earnings guidance cessation. Our evidence can inform the debate on the costs and benefits of providing short-term guidance.

Section 2 reviews the related prior studies and develops hypotheses. Section 3 describes the sample construction and research design. Section 4 reports the empirical results. Section 5 reports the evidence on managerial myopia based on a difference-in-differences design and offers explanations for differences between our results and those of prior studies. Section 6 concludes.

2 Related literature and hypothesis development

2.1 Costs and benefits of management guidance

[4] Cheng et al. (2007) and Call et al. 2014) examine earnings management and earnings guidance but not in a difference-in-differences setting. Houston et al. (2010) examine changes in capital expenditure and R&D investment around guidance cessation, but they do not consider endogeneity in the guidance cessation decision.

The literature highlights the benefits of disclosure, which include reduced information asymmetry, improved liquidity, lower cost of capital, and lower stock volatility (Healy and Palepu 2001). Empirical evidence indicates that providing earnings guidance increases analyst forecast accuracy (Waymire 1986), reduces analyst forecast dispersion (Clement et al. 2003), and lowers bid-ask spreads (Coller and Yohn 1997). Other benefits of earnings guidance include signaling managerial ability (Trueman 1986), walking down analysts' forecasts toward attainable earnings targets (Cotter et al., 2006), and reducing the probability of lawsuits and the magnitude of settlements in the case of bad earnings news (Skinner 1997; Field et al. 2005).

The costs of providing earnings guidance are less clear. The literature assigns the costs of disclosure primarily to propriety costs, reflecting concern that some disclosures might jeopardize a firm's competitive position in the product market (Dye 2001; Verrecchia 2001). Another type of cost zealously proposed by corporate managers, investor groups, and policymakers is short-termism, which is the excessive attention to short-term earnings (or stock prices) at the expense of long-term value creation. By providing quarterly earnings guidance, firms implicitly highlight their short-term performance and signal a commitment to meet their own short-term forecasts, which creates pressure to produce short-term results. Studies provide evidence that the presence of management guidance is a source of added pressure. Graham et al. (2005), for example, report that CFOs fear that missing a guided forecast will be interpreted as evidence that managers have no control over the firm and that the firm is poorly managed. Lennox and Park (2006) examine three-day returns around earnings announcements and find that the market's penalty for missing consensus analyst forecasts is greater for firms that issue guidance than for firms that do not.

The theoretical models on managerial myopia prompted by interim reporting in a mandatory reporting environment can also be applied to the case of earnings guidance because

both interim reporting and earnings guidance provide interim earnings signals. Gigler et al. (2014), for example, model the cost-benefit trade-off of providing interim earnings signals to the market. They find that providing interim earnings signals induces management myopia because of the price pressure, which is particularly costly when firms have high growth opportunities. In a similar spirit, Edmans et al. (2016) develop a model suggesting that frequent hard-information disclosure (i.e., interim earnings reporting or quarterly earnings guidance) improves information efficiency but reduces real efficiency by distorting the manager's decision about the weight put on short-term stock prices and long-term firm values.

Empirical evidence on short-term earnings guidance and managerial myopia, however, is mixed. Cheng et al. (2007) find that dedicated quarterly earnings guidance issuers have lower investment in R&D and are more likely to cut R&D to meet or beat analyst forecasts than occasional guidance issuers. In addition, dedicated guidance issuers' long-term earnings growth rates are significantly lower than those of occasional guiders, which suggests that dedicated guidance issuers engage in activities that help achieve short-term earnings targets at the expense of long-term earnings growth. Koch et al. (2012) find that acquisition premiums are higher for target firms that provide quarterly earnings guidance than for nonguiding target firms when the acquirer is a nonguiding firm, suggesting that acquisitions restore value when the acquirer is expected to curtail the myopia of the target. Other studies, however, provide evidence that earnings guidance is associated with higher earnings quality. Dutta and Gigler (2002) predict that earnings guidance can deter earnings management by expanding the available set of contractible information to include both forecasted and reported earnings. Call et al. (2014) find that the issuance of quarterly earnings guidance is associated with less, not more, earnings management, which is measured by both absolute and positive values of abnormal accruals and discretionary revenues. They also find that regular guiders

exhibit less earnings management than do sporadic guiders. In summary, evidence on managerial myopia induced by earnings guidance is mixed.[5]

The literature focuses on managerial myopia. Although no direct evidence exists for the relation between quarterly guidance and investors' short-termism, practitioners and consultants have argued that, by providing quarterly guidance, managers communicate to a group of investors who are keen on short-term performance while ignoring investors who have a deeper understanding of a firm's strategy and its potential to create long-term value (Palter et al. 2008). Chen et al. (2011) find that a recent decline in long-term institutional investors is associated with a firm's decision to stop quarterly guidance, suggesting that managers consider the effects of disclosure decisions on the long-term investor base. We provide new evidence by examining the effect of the cessation of quarterly guidance on investors' short-termism.

Several studies examine the characteristics of firms that stop quarterly earnings guidance and the consequences of guidance cessation. Houston et al. (2010) and Chen et al. (2011) document that most guidance stoppers are troubled firms and that ceasing short-term earnings guidance does not lead to the major benefits claimed. Instead, they find a decrease in analyst coverage and increases in analyst earnings forecast errors and forecast dispersion following guidance cessation. Hu et al. (2014), in contrast, show that information asymmetry decreases significantly for guidance stoppers relative to matched nonguiders and guidance maintainers.[6]

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[5] Brochet et al. (2015) use the language in earnings conference calls to infer whether managers are more or less short-term oriented. Consistent with the language emphasized during conference calls partially capturing short-termism, they show that the time horizon of conference call narratives indicates managers' myopia. We focus on a different disclosure medium and examine whether the cessation of quarterly earnings guidance influences *investor* myopia.

[6] With the exception of Houston et al. (2010), these studies focus on the information environment of stoppers. While Houston et al. (2010) examine changes in variables that reflect managerial myopia around guidance cessation, they do not consider endogeneity in the guidance cessation decision, which is important because factors influencing guidance cessation may also affect other changes around guidance cessation.

2.2 Hypothesis development

A common intuition among practitioners is that managerial myopia is caused by impatient traders in the capital market that hold the firm only for short-term capital gains and demand quick returns (Gigler et al. 2014). Porter (1992, p. 69) states: "Funds supplied by external capital providers move rapidly from company to company, usually based on perceptions of opportunities for near-term appreciation." The investor composition thus is considered an important factor that contributes to short-termism in the capital market (Ernst & Young 2014; Aspen Institute 2009). By providing quarterly guidance, managers communicate with and attract investors with short investment horizons (Karageorgiou et al. 2014). Chen et al. (2011) find that the loss of long-term institutional investors is one determinant of firms' decision to stop quarterly guidance. If guidance cessation signals a shift in focus toward long-term value creation, more investors with a long (short) investment horizon would be attracted to (shun) firms that stop providing guidance. This discussion leads to H1.

H1: Long-term (short-term) investors increase (decrease) after firms stop providing quarterly earnings guidance.

Stock price pressure arises because investors pay too much attention to short-term stock prices and not to long-term value creation. If quarterly earnings guidance encourages investors to focus on short-term performance and guidance cessation changes the firm's investor base toward more long-horizon investors, as practitioners argue (e.g., CFA Institute 2006), then, after guidance cessation, investors would pay more (less) attention to longer-term (shorter-term) value signals. H2 follows.

H2: Investors value more (less) long-term (short-term) earnings after firms stop providing quarterly earnings guidance.

Changes in the investor base toward more long-horizon investors after guidance cessation could also lead investors to react differently to financial analysts' short-horizon versus long-horizon forecasts. Analogous to a change in investors' weighing of short-term and long-term earnings, we expect that investors react more (less) to long-term (short-term) earnings forecast revisions. We propose H3.

H3: Investors react more (less) to long-term (short-term) earnings forecast revisions after firms stop providing quarterly earnings guidance.

Changes in the investor base after guidance cessation can lead to changes in how penalties are imposed on CEOs and thus can change managers' incentives. Mergenthaler et al. (2012) argue that boards of directors have reasons to impose career penalties on CEOs for missing the latest quarterly analyst earnings forecasts. They further differentiate missing earnings forecasts by large and small amounts, reasoning that, if penalizing small misses encourages managers to engage in myopic behavior (such as earnings management), a better course of action would be for the board not to penalize small misses or to penalize them less than large misses. Following this line of reasoning, we expect that, if shareholders (and boards as representatives of the investors) become less fixated on short-term performance targets after guidance cessation, they should be less sensitive to small misses in their CEO retention decisions. Less clear is whether the severity of penalties for large misses should change after guidance cessation. If imposing penalties for large misses is consistent with efficient contracting, instead of fixation on short-term performance, then, after guidance cessation, the penalties for large misses should be expected to increase. However, if guidance cessation reduces fixation but does not necessarily enhance efficient contracting, then no changes should be expected in the penalties for large

misses. We therefore leave penalties for large misses as an empirical question without a formal hypothesis. We thus offer H4.

H4: The sensitivity of CEO dismissal following small misses decreases after firms stop providing quarterly earnings guidance.

3 Sample and research design

3.1 Data and sample selection

Sample selection is summarized in Table 1. We obtain quarterly management earnings guidance from the First Call Historical Database Company Issued Guidelines (CIG). We begin with the quarterly management forecasts of earnings per share (EPS), earnings per share before interest, taxes, depreciation, and amortization (EBITDA), and earnings per share including goodwill (EPSIGW) issued by U.S. firms from 2001 to 2010. Our sample starts in the post-Reg FD period to eliminate the possibility that firms stopping public guidance replace it with private guidance. Following Houston et al. (2010) and Cai et al. (2014), we refer to each calendar quarter in the sample period as an "event quarter." The preceding four quarters are labeled the "pre-event period," and the event quarter and subsequent three quarters are labeled as the "post-event period." Guidance stoppers are identified as firms that issued quarterly earnings guidance for at least three out of the four pre-event quarters but provided no quarterly guidance for any of the four post-event quarters. Guidance maintainers are identified as firms that issued guidance for at least three of the four quarters in both the pre- and post-event periods. See Figure 1, Panel A, for the timeline used to identify guidance stoppers and maintainers.

[Insert Table 1 and Figure 1 near here]

To ensure that stoppers ceased providing quarterly management guidance, we search the Factiva news database and drop those stoppers that provided quarterly earning guidance in any quarter after the event quarter, even sporadically, before the end of our sample period. We search for the history of earnings guidance for all stoppers from the event quarter to the end of our sample period. We search by keywords in the full texts of Business Wire, PR Newswire, Associated Press Newswires, and Reuters Significant Developments. The phrases used contain two sets of keywords: (1) guidance, outlook, see(s), expect(s), expectation, forecast(s), project(s), estimate(s), higher, and lower and (2) net, earnings, income, results, loss, gain, profit(s), improvement, better, and performance. This process virtually excludes stoppers that have multiple guidance cessation events (i.e., that resume quarterly guidance and stop it again) from the sample. We also ensure that no maintainer has a guidance cessation event during the sample period by removing maintainers that stop providing guidance later in the sample period. To ensure that maintainers do not subsequently stop, we examine CIG data for all quarters from a year before the event quarter to the end of our sample period, and we drop maintainers if they experience a stopping event. These procedures result in stoppers having only one event quarter. Maintainers have multiple qualifying event quarters. We obtain financial and stock market data from Compustat and the Center for Research in Security Prices (CRSP), corporate governance data from ExecuComp, and analyst forecast data from the Institutional Brokers' Estimate System (I/B/E/S). We exclude observations in financial industries and firms that were delisted within six quarters of guidance cessation.

3.2 Research design

Because the literature suggests that the decision to stop guidance is endogenous and firms that stop guidance can differ significantly from those that do not (Houston et al. 2010; Chen et al.

2011), controlling for endogeneity is essential. We construct a matched control sample of firms that continue to issue quarterly guidance but otherwise resemble the stoppers in terms of observed characteristics, and we then adopt a difference-in-differences research design to address potential endogeneity.[7] We construct two sets of stopper and maintainer pairs. Both samples identify the control sample of maintainers and their artificial stopping quarters based on propensity-score matching. Propensity-score matching controls for endogeneity arising from the observed differences in firm characteristics without imposing structural forms between these characteristics and the dependent variable (Tucker 2010; Shipman et al. 2016). In the first matching procedure, we select the stopping quarter of each stopper and randomly choose a quarter from all the qualified quarters of each maintainer, following Houston et al. (2010). We then estimate the selection model with 233 stopper quarters and 673 randomly selected maintainer quarters (one quarter for each unique maintainer). By randomly selecting one quarter of each maintainer before estimating the selection model, we ensure that only one event quarter of each control firm is used in estimating the selection model. After the selection model is estimated, we match each stopper quarter with the maintainer quarter (i.e., an artificial stopping quarter of a maintainer) that has the closest propensity score and create the first matched sample (*SI*). The second match considers the stopping quarter of each stopper (233 stopper quarters of 233 stoppers) and all qualified maintainer quarters (19,932 maintainer

[7] Our research design addresses the endogeneity of the stopping decision by leveraging matched control firms and the guidance cessation event to implement difference-in-differences tests. Cheng et al. (2007) adopt a pure cross-sectional design. Chen et al. (2011) compare stoppers and nonstoppers and examine changes from the pre-stopping to the post-stopping quarters. Nonstoppers are not matched controls, however, and thus they can differ fundamentally from stoppers. Similarly, Houston et al. (2010) pool stoppers and maintainers and regress the changes between the pre-stopping and post-stopping quarters on an indicator variable of stoppers without considering the endogeneity of the guidance cessation decision. Call et al. (2014) match guiders and nonguiders, but no event allows them to adopt the difference-in-differences design. Hu et al. (2014) match stoppers with nonstoppers or nonguiders, based on five stock characteristics related to transaction costs and information asymmetry that may or may not be related to the endogenous choice of stopping guidance.

quarters of 673 unique maintainers). We then estimate the selection model using 233 stopper quarters and 19,932 maintainer quarters. On the basis of the estimated probability, we match each stopper quarter with a maintainer quarter in the same calendar quarter that has the closest propensity score and create the second sample of matched pairs (*S2*).

Each of the two matches has pros and cons. By including each maintainer only once, in the first approach, we avoid selecting multiple quarters of the same maintainer. However, this procedure results in a maintainer quarter that is not necessarily in the same calendar quarter as the stopper quarter. The second approach matches the calendar quarters of the maintainer and stopper quarters but may include multiple quarters of the same control firm in the sample. In both samples, we have one stopping quarter for each stopper. Each control firm (i.e., maintainer) is assigned an artificial stopping quarter, even though it has never stopped providing guidance. This artificial stopping quarter is determined through propensity-score matching. We conduct hypotheses testing on both samples and triangulate the results.

To match stopper quarters and maintainer quarters based on the closest propensity score in constructing *S1* and *S2*, we estimate the following logistic regression model (Cai et al. 2014).

$$\begin{aligned} &Ln(Prob(STOPPER=1)/(1-Prob(STOPPER=1))) \\ &\quad = \alpha_0 + \alpha_1 \Delta EPS + \alpha_2 LOSS + \alpha_3 BHR + \alpha_4 \Delta MBANALYST + \alpha_5 \Delta VOLATILITY \\ &\quad + \alpha_6 \Delta DISP + \alpha_7 \Delta ANALYST + \alpha_8 \Delta PINST + \alpha_9 \Delta LTPINST + \alpha_{10} LITI + \alpha_{11} SIZE \\ &\quad + \alpha_{12} MB + \alpha_{13} CEOTURNOVER + \alpha_{14} CFOTURNOVER + \alpha_{15} LNCT \\ &\quad + Industry\ Fixed\ Effects + Year\text{-}quarter\ Fixed\ Effects + \varepsilon. \end{aligned} \tag{1}$$

STOPPER is an indicator variable that equals one if the firm is identified as a stopper and zero otherwise. We include variables that proxy for changes of firms' performance and information environment (Δ*EPS*, *LOSS*, *BHR*, Δ*MBANALYST*, Δ*VOLATILITY*, Δ*DISP*, Δ*ANALYST*, Δ*PINST*, and Δ*LTPINST*) because such changes provide incentives to stop guidance. We include *LITI*, *SIZE*,

MB, and *LNCT* to control, respectively, for the effect of firm's litigation risk, size, growth (market-to-book ratio), and past guidance practice on the guidance cessation decision. *CEOTURNOVER* and *CFOTURNOVER* are included as controls for the effect of executive turnovers on the decision to stop guidance. We also include industry fixed effects and calendar year-quarter fixed effects to control for heterogeneity across industries and calendar quarters. See Appendix 1 for definitions of the variables.

The results from estimating Eq. (1) are presented in Table 2. For both *S1* and *S2*, the coefficients on the determinants are generally consistent with those in prior studies (Houston et al. 2010; Chen et al. 2011; Cai et al. 2014). We find that *BHR* is negatively associated with the propensity of stopping guidance and that *LOSS*, Δ*VOLATILITY*, *CEOTURNOVER*, and *CEOTURNOVER* are positively associated with the propensity of guidance cessation. The pseudo R^2 is 0.152 and 0.143 for the *S1* and *S2* samples, respectively.

[Insert Table 2 near here]

In constructing *S1*, we estimate the selection model using 233 stopping quarters and 673 randomly selected maintainer quarters. We obtain the estimated probability and choose the maintainer quarter with the closest propensity score for each stopper quarter. The matched maintainer quarter is considered the artificial stopping quarter of the maintainer, although it is not necessarily the same calendar quarter as the matched stopper quarter. This procedure yields 216 pairs of stoppers and maintainers. For *S2*, we estimate the selection model using 233 stopping quarters of 233 stoppers and 19,932 maintainer quarters of 673 unique maintainers. We choose the maintainer quarter with the closest propensity score as a control for a stopper in the same calendar quarter. This procedure

yields 223 pairs of stoppers and maintainers.[8] For both *S1* and *S2*, following prior studies (e.g., Caliendo and Kopeinig 2008; Chan et al. 2013), we require a caliper of 0.1. The size of *S2* is larger because, in constructing the sample, we have multiple maintainer quarters to choose from, which increases the chance of satisfying the caliper constraint. Panel B of Table 2 reports the summary statistics that inform the quality of the matching procedures. Columns (1)–(4) show that, for *S1*, no significant difference exists in firm characteristics between stoppers and maintainers. (The highest *t*-value is 1.26.) Furthermore, the predicted probability (*PSMSCORE*) is indifferent between stoppers and maintainers (*t*-statistic = 0.88). This illustrates the high quality of matching. Columns (5)–(8) show that, for *S2*, no significant differences emerge in firm characteristics between the treatment sample and the control sample (the highest *t*-value is 1.43). The difference in *PSMSCORE* is significant between stoppers and maintainers (*t*-statistic = 2.17), suggesting that the quality of the matching is not as good as that for *S1*. In *S2*, however, we match each stopper with a maintainer in the same calendar quarter, which helps mitigate any potential bias arising from the mismatching of periods between the treatment sample and the control sample.

To check whether the stopping (artificial stopping) quarters of our sample are well distributed over the sample period, we report the yearly distribution of the event quarters of the identified stoppers (maintainers) for each sample in Panel C of Table 2. We do not observe any clustering in periods of either stoppers' or maintainers' event quarters in either sample. The year 2010 has fewer stoppers and maintainers because we require three subsequent quarters to identify stoppers and maintainers. Our original CIG sample stops at the fourth quarter of 2010, and the first quarter of 2010 is the last event quarter in our sample. In Table 2, Panel D, we

[8] The number of observations varies across different tests because the data requirements are different. Thus the number of unique firms included in each test also varies (see Table 1). In addition, the number of observations changes depending on whether the dependent variable is measured over one year or one quarter.

present the industry distribution of stoppers and maintainers for each sample. Stoppers and maintainers are distributed fairly evenly across industries (except computer equipment and services), but, more importantly, they do not cluster in different industries.

Although the identification of stoppers and maintainers ends in 2010, we examine two more years when testing the hypotheses because we are interested in the consequences of guidance cessation and some consequences may take time to materialize. Thus we use data up to 2012.[9] The sample size to test each hypothesis varies because of the different data requirements (see Table 1). Figure 1, Panel B, depicts the timeline of the event quarter and the periods for hypotheses testing.

To test H1, we examine the change in the composition of the investor base after guidance cessation. We use three proxies to measure the composition of investors. The first proxy is the proportion of ownership by long-term institutional investors (*LTPINST*) among the total institutional investors (*PINST*). The second proxy is the proportion of ownership by short-term institutional investors (*STPINST*) among the total institutional investors (*PINST*). The third proxy is the ratio of the first and second proxies (*LTPINST/STPINST*). In constructing these measures, we omit retail investors because we do not have access to detailed holding or trading data for them that could help identify which ones behave like short-term (or long-term) institutions. This is consistent with the approach used in recent studies (e.g., Chen et al. 2002; Greenwood and Thesmar 2011) that uses institutional ownership data to understand the nature and characteristics of the larger population of all shareholders. Following Yan and Zhang (2009), we classify institutions based on their past four-quarter portfolio turnover. Institutions that fall in the lowest (top) tercile of turnover within each quarter are classified as long-term (short-term) institutions. At the stock level, we aggregate the ownerships of all the institutions that are classified as long-term (short-term)

[9] We also focus on a narrow window of eight quarters, four quarters before, and four quarters after the event quarter, to conduct the hypotheses testing. These results are discussed in Subsection 4.6.

institutions and construct the stock's long-term (short-term) institutional ownership, which is labeled *LTPINST* (*STPINST*). We then estimate the regression model as follows.

$$\begin{aligned} \textit{Ownership Proxy} = {} & \alpha_0 + \alpha_1 \textit{STOPPER} + \alpha_2 \textit{POST} + \alpha_3 \textit{POST*STOPPER} \\ & + \alpha_4 \textit{SIZE} + \alpha_5 \textit{AGE} + \alpha_6 \textit{DP} + \alpha_7 \textit{MB} + \alpha_8 \textit{PRC} + \alpha_9 \textit{TURNOVER} \\ & + \alpha_{10} \textit{VOL} + \alpha_{11} \textit{SP500} + \alpha_{12} \textit{RET}_{-3,0} + \alpha_{13} \textit{RET}_{-12,-3} \\ & + \textit{Industry Fixed Effects} + \varepsilon. \end{aligned} \quad (2)$$

Time fixed effects (calendar year-quarter indicators) are also controlled when we estimate the regression with the *S1* sample. Ownership proxy is measured by *LTPINST/PINST*, *STPINST/PINST*, or *LTPINST/STPINST*, as described above. *POST* equals one for calendar quarters ending after the guidance stopping quarter (artificial stopping quarter) for stoppers (maintainers) and zero otherwise. *STOPPER* is defined as previously. We control several determinants that are likely to relate to institutional ownership (Yan and Zhang 2009): firm size (*SIZE*), growth opportunities (*MB*), firm age (*AGE*), dividend yield (*DP*), share price (*PRC*), average monthly turnover (*TURNOVER*), standard deviation of monthly returns (*VOL*), an indicator variable for inclusion in the Standard and Poor's 500 Index (*SP500*), cumulative gross stock returns over the past three months ($RET_{-3,0}$), and cumulative gross stock returns over the nine months preceding the beginning of the previous quarter ($RET_{-12,-3}$). All accounting variables are measured as of the last fiscal quarter ending before the current quarter. The coefficient on *POST* captures changes in ownership for guidance maintainers.[10] The coefficient on *POST*STOPPER* represents the incremental change in the composition of ownership after quarterly earnings guidance cessation for stoppers over the change for maintainers.

[10] As we match guidance stoppers with maintainers using propensity-score matching and given that stoppers and maintainers have a similar propensity to stop quarterly guidance, this coefficient can also be interpreted as potential changes in ownership for stoppers if they do not stop quarterly guidance. Similar interpretations apply to the coefficients on *POST* in other equations.

To test H2, we examine whether guidance cessation shifts the investors' focus from short-term earnings to long-term earnings in firm valuation. Based on the valuation models of Ohlson (1995) and Frankel and Lee (1998), Bushee (2001) calculates valuation weights on expected near- and long-term earnings. Using proxies for near- and long-term earnings as in Bushee (2001), we estimate the regression model as follows.

$$\begin{aligned} P = {} & \alpha_0 + \alpha_1 BV + \alpha_2 PVAX + \alpha_3 PVTV + \alpha_4 STOPPER + \alpha_5 POST + \alpha_6 POST*STOPPER \\ & + \alpha_7 BV*STOPPER + \alpha_8 BV*POST + \alpha_9 BV*POST*STOPPER + \alpha_{10} PVAX*STOPPER \\ & + \alpha_{11} PVAX*POST + \alpha_{12} PVAX*POST*STOPPER + \alpha_{13} PVTV*STOPPER \\ & + \alpha_{14} PVTV*POST + \alpha_{15} PVTV*POST*STOPPER + Industry\ Fixed\ Effects + \varepsilon. \end{aligned} \quad (3)$$

Because the valuation model is based on annual earnings, we estimate this model using annual data. We also control for time fixed effects when we estimate the regression with the *S1* sample by including calendar year indicators because periods could be mismatched between stopper event quarters and maintainer quarters in the *S1* sample. *P* and *BV* are the stock price and book value at the fiscal year-end, respectively. *PVAX* captures near-term earnings and is calculated as the present value of abnormal earnings in the next year. *PVTV* captures long-term earnings and is calculated as the present value of all future abnormal earnings beyond one year. Appendix 2 provides details on the calculation of *PVAX* and *PVTV*. *POST* here takes a value of one for fiscal years that end after the guidance stopping quarter (or artificial stopping quarter for maintainers) and zero otherwise. The coefficient on *PVAX* and the coefficient on *PVTV* represent the valuation weight on near-term earnings and on long-term earnings, respectively. The coefficient on *PVAX*POST* (*PVTV*POST*) captures changes in the valuation weight on near-term (long-term) earnings for guidance maintainers. The coefficient on *PVAX*POST*STOPPER* (*PVTV*POST*STOPPER*) captures the difference-in-differences and represents the effect of guidance cessation on the changes in the valuation weight on near-term (long-term) earnings. The negative (positive)

coefficient on the interaction term *PVAX*POST*STOPPER* (*PVTV*POST*STOPPER*) suggests that investors' valuation weight on near-term (long-term) earnings decreases (increases) more for guidance stoppers than for maintainers.

To test H3, we estimate the regression as follows.

$$CAR = \alpha_0 + \alpha_1 REV + \alpha_2 STOPPER + \alpha_3 POST + \alpha_4 POST*STOPPER + \alpha_5 REV*STOPPER + \alpha_6 REV*POST + \alpha_7 REV*POST*STOPPER + \alpha_8 SIZE + \alpha_9 MB + \alpha_{10} Beta + Industry\ Fixed\ Effects + \varepsilon. \quad (4)$$

Again, we control for time fixed effects (calendar year-quarter indicators) when we estimate the regression with the *S1* sample. The dependent variable is cumulative abnormal stock returns, *CAR*, measured in the three-day window surrounding the announcement of analysts' one-year-ahead or two-year-ahead earnings forecast revisions. *REV* is earnings revisions, either one-year-ahead or two-year-ahead, measured as the average of all individual analysts' one-year (two-year) forecast revision, in which revision is the new one-year (two-year) forecast less the analysts' own prior one-year (two-year) forecast scaled by the share price. We require that analysts' forecasts occur between three days after the prior earnings announcement date and three days before the current earnings announcement date. Following Gleason and Lee (2003), we use revisions only for firms that have no other revisions (either one-year- or two-year-ahead) occurring within a three-day window to alleviate concern over clustered revisions.[11] The coefficient on *REV* captures the sensitivity of the stock price to forecast revisions. *POST* here takes a value of one for earnings announcements issued after the guidance stopping quarter (or artificial stopping quarter for maintainers) and zero otherwise. *STOPPER* is defined as previously. The key variable of

[11] The incidence of one-year- and two-year-ahead revisions clustering in the same three-day window is high. The proportion is about 70%. Alternatively, we retain these overlapping revisions and re-estimate the regressions. We find that the coefficient estimates are virtually the same but are statistically much stronger for both the one-year-ahead and two-year-ahead revision models.

interest is the interaction variable *REV*POST*STOPPER*. Its coefficient, α_7, captures how the sensitivity of the stock price to analysts' forecast revisions changes from the pre-cessation period to the post-cessation period for stoppers compared with maintainers. We estimate Eq. (4) separately for one-year-ahead and two-year-ahead analyst forecast revisions. If guidance cessation mitigates the stock price sensitivity to short-term (i.e., one-year-ahead) analyst forecast revisions more for stoppers than for maintainers, we expect this coefficient to be negative in the one-year-ahead revision model. If guidance cessation enhances the stock price sensitivity to long-term (i.e., two-year-ahead) forecast revisions more for stoppers than for maintainers, we expect the coefficient to be positive in the two-year-ahead revision model. We add a vector of control variables: the market capitalization of the firm (*SIZE*), market-to-book ratio (*MB*), and the stock's systematic risk (*Beta*). *SIZE* and *MB* are measured as of the end of the last fiscal quarter before the beginning of the current quarter. *BETA* is estimated over the month before the beginning of the current quarter. We also include the interactions of *POST*STOPPER*, *REV*POST*, and *REV*STOPPER* to avoid any bias arising from their omission.

To test H4, we estimate the logistic regression model as follows.

$$\begin{aligned} &Ln(Prob(CEO\_FIRE = 1) / (1 - Prob(CEO\_FIRE = 1))) \\ &= \alpha_0 + \alpha_1 SMISS + \alpha_2 BMISS + \alpha_3 STOPPER + \alpha_4 POST + \alpha_5 POST*STOPPER \\ &+ \alpha_6 SMISS*STOPPER + \alpha_7 SMISS*POST + \alpha_8 SMISS*POST*STOPPER \\ &+ \alpha_9 BMISS*STOPPER + \alpha_{10} BMISS*POST + \alpha_{11} BMISS*POST*STOPPER + \alpha_{12} SIZE \\ &+ \alpha_{13} MB + \alpha_{14} CEO\_TENURE + \alpha_{15} RECENT\_HIRE + \alpha_{16} CROA + \alpha_{17} RETURN \\ &+ \alpha_{18} VOL + Industry\ Fixed\ Effects + \varepsilon. \end{aligned} \tag{5}$$

Because we identify CEO turnover using ExecuComp for each fiscal year, we estimate this model using annual data. We also control for time fixed effects (calendar year indicators) when we estimate the regression with the *S1* sample. The dependent variable *CEO_FIRE* equals one if a CEO was dismissed and zero otherwise. We identify a CEO as dismissed if there is CEO turnover in the fiscal year and the turnover reason provided by ExecuComp is not "deceased" or

"retirement." *POST* and *STOPPER* are defined as in Eq. (3). *SMISS* measures the number of times the firm misses the latest quarterly consensus analyst forecast by a penny or less during the fiscal year. *BMISS* measures the number of times the firm misses the latest quarterly consensus analyst forecast by more than a penny during the fiscal year. The coefficient on *SMISS*POST* (*BMISS*POST*) captures changes in maintainer investors' or boards' tolerance for missing quarterly earnings targets by small (large) amounts. The coefficient on *SMISS*POST*STOPPER* (*BMISS*POST*STOPPER*) captures the incremental tolerance of stoppers' investors or boards for missing quarterly earnings targets by small (large) amounts relative to maintainers' investors or boards. If stopping guidance increases investors' or boards' tolerance for missing quarterly earnings target by small amounts, we expect the positive association between CEO dismissal and *SMISS* to be mitigated more for stoppers after guidance cessation than for maintainers. Following Mergenthaler et al. (2012), Huson et al. (2001), and Farrell and Whidbee (2003), we control for firm size (*SIZE*), market-to-book ratio (*MB*), CEO tenure (*CEO_TENURE*), an indicator variable for hiring a CEO in the most recent three years (*RECENT_HIRE*), the change in the return on assets (*CROA*), the buy-hold returns over the previous fiscal year (*RETURN*), and the standard deviation of monthly returns (*VOL*). *SIZE*, *MB*, *CEO_TENURE*, *RECENT_HIRE*, *CROA*, *RETURN*, and *VOL* are measured as of the end of the previous fiscal year. In addition, we include the interactions of *POST*STOPPER*, *SMISS*POST*, and *SMISS*STOPPER* to complete the model.

4 Results

4.1 Descriptive statistics

Table 3 provides the descriptive statistics of the variables used in hypotheses testing for the two samples, *S1* and *S2*. The average firm in our sample (similar across the two samples) has a market

capitalization of $922 million, a market-to-book ratio of 2.4, approximately 15 years of CRSP return data, institutional ownership of 70%, and long-term institutional ownership of 34%. These statistics suggest that our sample of stoppers and maintainers is composed of large and mature firms.

[Insert Table 3 near here]

4.2 Composition of the investor base

Table 4 presents the results of estimating model (2) based on *S1* in columns (1)–(3) and *S2* in columns (4)–(6). Columns (1) and (4) show that the coefficients on *POST*STOPPER* are positive and significant (0.004 with a *t*-value of 1.72 and 0.012 with a *t*-value of 2.58, respectively), suggesting that the ratio of long-term institutional ownership to total institutional ownership increases more for guidance stoppers after guidance cessation than for maintainers. The results shown in columns (2) and (5) suggest that the ratio of short-term institutional ownership to total institutional ownership decreases more for stoppers after guidance cessation than for maintainers.[12] In addition, columns (3) and (6) show that the ratio of long-term institutional ownership to short-term institutional ownership increases more after guidance cessation for stoppers than for maintainers. The coefficients on control variables are largely consistent with those in prior studies (e.g., Gompers and Metrick 2001; Yan and Zhang 2009). That is, long-term institutional investors prefer older and S&P 500 stocks and stocks with lower monthly turnover, lower volatility, and lower past 12-month returns. In an alternative research design, we drop the stopper indicator, *STOPPER*, and its interaction with *POST* (i.e., *POST*STOPPER*) from regression model (2) and estimate the reduced model for the stopper and maintainer subsamples separately. We find, in untabulated results, that long-term

[12] Bushee and Noe (2000) find that the level (change) of Association for Investment Management Research disclosure ranking is positively associated with the level (change) of transient institutional ownership. Although our results appear to be broadly similar to the Bushee and Noe (2000) findings, we focus on one specific type of disclosure (i.e., quarterly earnings guidance), a direct action of managers, not a third-party rating (by analysts), on a broad spectrum of firms' disclosure policies, which include but not are limited to earnings guidance.

institutional ownership increases after guidance cessation in the stopper sample but not in the maintainer sample for both *S1* and *S2* and that the difference between stoppers and maintainers is statistically significant in both *S1* and *S2*, which is consistent with the results reported in Table 4.

[Insert Table 4 near here]

4.3 Firm valuation

We test whether quarterly guidance cessation shifts investors' focus from short-term earnings to long-term earnings in firm valuation (H2). We report the results, in Table 5, based on *S1* in columns (1) and (2) and *S2* in columns (3) and (4). Columns (1) and (3) provide the baseline results. The coefficient on book value (*BV*) is significantly higher than its theoretical value of one.[13] The coefficient on *PVAX* (*PVTV*) is significantly greater (less) than one, consistent with the work of Abarbanell and Bernard (2000) and Bushee (2001), and indicates mispricing, on average, with respect to long-term earnings. Columns (2) and (4) show how investors' focus differs between the pre- and post-stopping periods and between stoppers and maintainers. While the coefficient on *PVAX*POST* represents a change in the valuation weight on short-term earnings for matched maintainers (i.e., quarterly guidance issuers without cessation), the coefficient on *PVAX*POST*STOPPER* captures the difference-in-differences, i.e., the difference in the change of the valuation weight on short-term earnings from the pre- to post-guidance cessation periods between stoppers and maintainers. The coefficient on *PVAX*POST*STOPPER* is negative and significant for both samples (-0.882 with a *t*-value of -2.29 and -0.964 with a *t*-value of -2.43 for *S1* and *S2*, respectively), suggesting that, relative to investors in maintainers, investors in stoppers

[13] The *t*-values reported in Table 5 test whether the coefficients are different from zero. We also test whether they are different from one. The untabulated results show that the coefficients of *BV* and *PVAX* are significantly higher than one and that the coefficient of *PVTV* is significantly lower than one.

place less weight on short-term earnings after firms cease quarterly earnings guidance. In contrast, the coefficients on *PVTV*POST*STOPPER* are positive and significant for both samples (0.075 with a *t*-value of 1.78 and 0.068 with a *t*-value of 1.75 for *S1* and *S2*, respectively), indicating that, relative to investors in maintainers, investors in stoppers place more weight on long-term earnings after firms stop quarterly earnings guidance.

In an alternative research design, we drop the stopper indicator, *STOPPER*, and its interaction with other variables from regression model (3) and estimate the reduced model for the stopper and maintainer subsamples separately. We find, in untabulated results, that the coefficient on *PVAX*POST* is negative in the stopper sample but positive in the maintainer sample for both *S1* and *S2* and that the difference in the coefficient between stoppers and maintainers is statistically significant in both *S1* and *S2*. The coefficient on *PVTV*POST* is positive in the stopper sample but negative in the maintainer sample for both *S1* and *S2* and that the difference in the coefficient between stoppers and maintainers is statistically significant in both *S1* and *S2*. Collectively, the results show that investors shift their focus from short-term to long-term earnings after the cessation of quarterly earnings guidance.

[Insert Table 5 near here]

4.4 Sensitivity of stock returns to analyst earnings forecast revisions

We next test whether the sensitivity of stock returns to long-term (short-term) earnings revisions made by analysts becomes stronger (weaker) after quarterly guidance cessation, which would suggest greater (less) attention to long-term (short-term) earnings signals after firms stop providing quarterly guidance. Table 6 reports the results based on *S1* in columns (1)–(4) and those based on *S2* in columns (5)–(8). Columns (1), (2), (5), and (6) present the results with the forecast revisions of short-

term earnings, and columns (3), (4), (7), and (8) present the results with the forecast revisions of long-term earnings. Columns (1), (3), (5), and (7) show the baseline results. Consistent with prior studies, the three-day market response to both short-term and long-term earnings revisions is significantly positive. Columns (2), (4), (6), and (8) show the results of estimating regression model (4). The coefficient on *REV*POST*STOPPER* captures the difference-in-differences or the effect of guidance cessation on the stock price sensitivity to short-term or long-term earnings forecast revisions after endogeneity of the guidance cessation decision is controlled for. As shown in columns (2) and (6), the coefficient on *REV*POST*STOPPER* is negative and statistically significant for both the *S1* and *S2* samples (-0.002 with a *t*-value of -1.88 and -0.004 with a *t*-value of -2.57 for *S1* and *S2*, respectively), indicating that guidance cessation reduces the stock price sensitivity to short-term forecast revisions for guidance stoppers relative to maintainers. In columns (4) and (8), the coefficients of *REV*POST*STOPPER* are significantly positive (0.004 with a *t*-value of 2.36 and 0.010 with a *t*-value of 2.24 for *S1* and *S2*, respectively), indicating that stock price sensitivity to long-term forecast revisions increases after guidance cessation for stoppers compared with maintainers. In an alternative research design, we drop *STOPPER* and its interactions with other variables from regression model (4) and estimate the reduced model for the stopper and maintainer subsamples separately. In untabulated results, the coefficient on *REV*POST* is significantly negative (positive) in the stopper subsample for short-term (long-term) forecast revision but not in the maintainer subsample for both *S1* and *S2*, suggesting that the stock price sensitivity to short-term (long-term) forecast revisions decreases (increases) for stoppers after guidance cessation, although there is no change for maintainers.

[Insert Table 6 near here]

4.5 Sensitivity of CEO turnover to small misses

We next examine the sensitivity of forced CEO turnover to missing analyst forecasts. If guidance cessation reduces fixation on short-term performance and cultivates investors' (boards') tolerance for small misses, then we expect that the sensitivity of CEO dismissals to missing quarterly earnings forecasts by small amounts decreases more after guidance cessation for stoppers than for maintainers. Columns (1) and (3) of Table 7 show the baseline results for *S1* and *S2*, respectively, without including our variables of interest. Confirming prior findings (Aghion et al. 2013; Engel et al. 2003; Farrell and Whidbee 2003; Mergenthaler et al. 2012), the results show that CEOs are more likely to be forced out when firms are larger, when market-to-book ratio is lower, and when firms miss earnings targets. We also find that CEOs are less likely to be forced out when they have been recently hired. Columns (2) and (4) report the results of estimating logistic regression model (5). In columns (2) and (4), the coefficient on *SMISS*POST*STOPPER* is significantly negative in both *S1* and *S2* [-0.300 with a *t*-value of -1.97 in column (2) and -0.505 with a *t*-value of -1.76 in column (4)], suggesting that CEO turnover sensitivity to missing earnings targets by small amounts decreases in the post-stopping periods more for stoppers than for maintainers, which implies a decline in boards' fixation on earnings benchmarks after guidance cessation. We also find that the penalties for *BMISS* increase for stoppers in the post-cessation period, compared with maintainers, which might indicate improved contracting efficiency. In an alternative research design, we estimate logistic regression model (5) without *STOPPER* and its interaction with other variables and estimate the reduced model for the stopper and maintainer subsamples separately. In untabulated results, we find that the coefficient on *SMISS*POST* is significantly negative in the stopper sample but not in the maintainer sample for both *S1* and *S2*, suggesting that stoppers' forced CEO turnover

sensitivity to small misses of earnings targets decreases after guidance cessation, but no noticeable change exists in CEO turnover sensitivity to small misses of earnings targets for maintainers. The difference in the coefficient on *SMISS*POST* between stoppers and maintainers is statistically significant at the 5% level in both *S1* and *S2*. The results also show that the CEO turnover sensitivity to large misses of earning targets increases more after guidance cessation for stoppers than for maintainers, suggesting that CEO turnover is more sensitive to firms' poor performance (measured by *BMISS*).

[Insert Table 7 near here]

4.6 Robustness tests

We identify guidance stoppers and maintainers by examining four pre-event quarters and four post-event quarters between 2001 and 2010. We then use all available firm-year and firm-quarter observations between 2001 and 2012 for the hypotheses testing. Thus the *POST* indicator captures the average changes between the pre- and post-cessation periods. We use all available firm-year and firm-quarter observations because the effect of the quarterly guidance cessation may take time to manifest. We ensure that stoppers cease providing guidance and that maintainers do not subsequently stop by dropping stoppers that have multiple guidance cessation events and maintainers that stop guidance at any point during our sample period. As a robustness test, we re-estimate all our regressions using only eight firm quarters (four immediate pre-stopping and four immediate post-stopping quarters), with which we identify stoppers and maintainers. The results (untabulated) for the changes in institutional ownership around guidance cessation (H1), for the relative valuation of short-term versus long-term earnings (H2), and for the stock price sensitivity to earnings forecast revisions (H3) are generally robust with this

limited sample. The results (untabulated) for forced CEO turnover sensitivity to missing earnings targets by small amounts resemble those in Table 7 but are insignificant. Weaker statistical significance may arise because of the smaller sample size or because some effects arising from stopping guidance take more than four quarters to manifest.

5 Analyses of managerial short-termism

While we focus on investors' short-termism, the literature centers mainly on managerial myopia. In this section, we reexamine managerial myopia, including that reflected in accrual-based earnings management, real earnings management, capital expenditure, and R&D investment, based on a difference-in-differences research design while taking the endogenous guidance cessation decision into account.

5.1 Accrual-based earnings management

We examine whether accrual-based earnings management increases or decreases after quarterly earnings guidance cessation. Following DeFond and Subramanyam (1998), Kothari et al. (2005), Kim et al. (2012), and Collins et al. (2016), we compute a firm's discretionary accruals as the residuals from the quarterly cross-sectional industry regression model after controlling for performance and sales growth. We regress absolute and directional values of discretionary accruals on *STOPPER*, *POST*, *STOPPER*POST*, and control variables. The (untabulated) results based on *S1* and *S2* and on absolute and directional values of discretionary accrual show that accrual-based earnings management does not decrease more or less for quarterly guidance stoppers than for maintainers. Our results do not necessarily conflict with those of Call et al. (2014), who show that, compared with nonguiders, quarterly earnings guiders have less discretionary accruals. Because both

stoppers and maintainers in our sample are (regular) guiders in the pre-cessation period, by definition, they may have low discretionary accruals to begin with, as shown in Call et al. (2014).[14] Collectively, the results of Call et al. and our study suggest that guiders are less likely to manage earnings through accruals than nonguiders and that guiders do not decrease accrual-based earnings management after they stop providing quarterly earnings guidance.

5.2 Real earnings management

We conduct analyses for the combined measure of real earnings management and three individual real earnings management proxies: abnormal cash flows from operations, abnormal production costs, and abnormal discretionary expenses. Following Roychowdhury (2006) and Kim et al. (2012), we estimate the abnormal levels of operating cash flows, production costs, and discretionary expenses as the residuals from the quarterly industry regression. We regress real earnings management proxies on *STOPPER*, *POST*, *STOPPER*POST*, and control variables. Untabulated results with the combined measure suggest that real earnings management is significantly lower after earnings guidance cessation for stoppers than for maintainers. The tenor of the results using the three individual real earnings management proxies is similar but the statistical significance is weaker. Considering that real earnings management destroys long-term value because of suboptimal operating decisions, our results provide some evidence that the cessation of quarterly guidance reduces management myopia.[15]

[14] We replicate the analyses of Call et al. (2014) for our sample period. We identify nonguiders who never issue guidance in our sample period and compare them with regular guiders and find that regular guiders have less accrual-based earnings management, confirming the results of Call et al. (2014). These findings may partially explain why firms do not decrease accrual-based earnings management after guidance cessation.

[15] One concern in the analysis of real earnings management is whether our proxies capture the earnings management activities of firms or some other operating inefficiencies. Following Roychowdhury (2006), Cohen et al. (2008), Kim et al. (2012), and Zang (2012), we conduct an analysis using suspect firms to provide construct validity to our real earnings management proxies. Suspect firms are those that are more likely to manage earnings to meet or beat earnings

5.3 Capital expenditure and R&D investment

Houston et al. (2010) show that, compared with maintainers, stoppers do not increase their investment in capital expenditure or R&D, which is inconsistent with a reduction in managerial myopia after quarterly guidance cessation. We reexamine the changes in capital expenditures and R&D investment using abnormal capital expenditure and abnormal R&D. We compute abnormal capital expenditure, as the residuals from the industry-quarter regressions using Eq. (3) of McNichols and Stubben (2008). We calculate abnormal R&D from the industry-quarter regressions using Eq. (5) of Roychowdhury (2006). Our tests are based on the difference-in-differences research design. We regress abnormal capital expenditure or abnormal R&D on *STOPPER*, *POST*, *STOPPER*POST*, and control variables. Untabulated results show that, while before guidance cessation stoppers have lower abnormal capital expenditure than maintainers, stoppers increase capital expenditure in the post-cessation period more (or decrease capital expenditure less) than maintainers. We observe a similar pattern in the results from the R&D investment model.[16]

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benchmarks. We define suspect firms as those that just avoid reporting loss, i.e., firm-quarter observations in which net income before extraordinary items scaled by total assets lies in the interval [0, 0.005); those that just meet or beat the last quarter's net income, i.e., firm-quarter observations in which the change in net income before extraordinary items scaled by total assets lies in the interval [0, 0.005); or those that just meet or beat analyst forecasts, i.e., firm-quarter observations in which the analyst forecast error (actual earnings per share less the consensus forecast of earnings per share) lies in the interval [0, 1 cent]. To ease interpretation, we separately estimate the model for suspect firms and the rest of the firms (nonsuspect firms) in our sample. The results (untabulated) show that guidance cessation leads to a decrease in real earnings management for suspect firms but not for nonsuspect ones.

[16] The tenor of our results differs from that of Houston et al. (2010), possibly because our approach differs from theirs in two important aspects. First, our stoppers and maintainers are propensity-score matched with the endogeneity of the stopping decision accounted for. Houston et al. (2010) compare stoppers and maintainers that are randomly chosen, not matched. Second, we use abnormal capital expenditure and R&D investments to parse the expected levels of these expenditures that are determined by economic activities. In addition, while Houston et al. (2010) examine the change of capital expenditure between the four quarters before and four quarters after guidance cessation, we make use of all available quarters pre- and post-cessation, considering that increases in capital expenditure might need more than four quarters to take place. An analysis based on four quarters before and four quarters after guidance cessation shows statistically indifferent changes in capital expenditure between stoppers and maintainers for sample *S1*, but we continue to find a relatively greater increase in abnormal capital expenditure for stoppers than for maintainers for sample *S2* (untabulated). Thus a delay in capital expenditure changes may also contribute to the difference in results between the two studies.

6. Conclusion

We provide new evidence on the effect of stopping quarterly earnings guidance on investor short-termism. We construct two samples of stoppers and maintainers, taking into account endogeneity in the guidance cessation decision. Using a difference-in-differences research design, we show that, after guidance cessation, investors in firms that stop quarterly guidance are composed of a greater (smaller) proportion of long-term (short-term) institutions, relative to investors in firms that continue to issue quarterly earnings guidance. We also find that guidance cessation leads to more valuation weight on long-term earnings and less valuation weight on short-term earnings. In addition, investors in firms that stop providing guidance become more (less) sensitive to analysts' long-term (short-term) earnings forecast revisions and are less likely to dismiss CEOs for missing quarterly earnings targets by small amounts relative to investors in firms that continue to provide quarterly earnings guidance. We also provide evidence that stopping quarterly guidance reduces managerial myopia, which is measured by real earnings management and investment decisions.

Our paper adds to the growing literature on the effects of short-term guidance. Chen et al. (2011) and Houston et al. (2010) show that quarterly guidance cessation harms the firm's information environment. Call et al. (2014) and Chen et al. (2015) show that short-term guidance issuers manage earnings less and are better innovators, affirming the benefits of short-term guidance. Our analyses provide evidence pointing to the costs of short-term guidance. Our results largely support the criticism that short-term guidance induces investor myopia, which in turn creates short-term pressure on management and induces managerial myopia.

Our study is not without caveats. First, cessation of quarterly earnings guidance is not random, and endogeneity is an important concern in drawing inferences from the empirical results. We use a difference-in-differences research design and propensity-score matching approach to address endogeneity arising from observable differences between stoppers and

maintainers. However, endogeneity due to unobservable differences (e.g., unobservable information environment) may not be fully controlled for. Ideally, we would have a true exogenous event that causes quarterly guidance cessation for some firms but not for the others. Unfortunately, such an event is not available. Second, while we consider the endogeneity in the decision to stop quarterly earnings guidance, another type of endogeneity may arise from decisions to provide guidance to begin with. The first type of endogeneity is more important in our study because we compare stoppers and maintainers, both of which issue quarterly earnings guidance before a decision to stop. However, the initial decision to provide guidance could be correlated with the maintainers' decision to continue to provide guidance, which is not fully addressed in our study. Despite these caveats, by providing evidence on the effect of quarterly earnings guidance cessation on changes in investor myopia, our study informs the debate on the benefits and costs of providing quarterly earnings guidance.

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Appendix 1: Variable definitions

Variable		Definition
AGE	=	Natural logarithm of (1 + the number of quarters since the firm first appeared in the CRSP database).
BETA	=	Systematic risk, computed as the slope coefficient from the market model estimated using daily return data over the last month ending before the beginning of the quarter.
BHR	=	Buy-and-hold returns (compounded monthly) over one year ending with the month of the earnings announcement for the quarter preceding the event quarter subtracted by the buy-and-hold returns of the equal-weighted market index during the same period.
BMISS	=	Number of times the firm misses the latest quarterly consensus analyst forecast by more than a penny during the fiscal year.
BV	=	Book value at the end of the fiscal year.
CAR	=	Cumulative abnormal stock returns over three days centered on the announcement date of the quarterly earnings.
CEO_FIRE	=	Indicator variable equal to one if there is CEO dismissal (CEOs leaving firms who are not retired or deceased) in a given firm year and zero otherwise.
CEO_TENURE	=	Natural logarithm of one plus the difference between the fiscal year and the year when the executive became CEO.
CEOTURNOVER	=	Indicator variable equal to one if there is CEO turnover in a given firm year and zero otherwise.
CFOTURNOVER	=	Indicator variable equal to one if there is CFO turnover in a given firm year and zero otherwise.
CROA	=	Change in return on assets (*ROA*); *ROA* is calculated as net income divided by average total assets from fiscal year *t*-1 to fiscal year *t*.
Δ*ANALYST*	=	Change in analyst following, calculated as the change in the number of analysts covering the firm in quarter *t*-1 relative to the same measure in quarter *t*-8.
Δ*DISP*	=	Change in the analyst forecast dispersion, calculated as the standard deviation of the last analyst forecast before the quarter *t*-1 earnings announcement scaled by lagged stock price relative to the same measure in quarter *t*-8.
Δ*EPS*	=	Change in the average earnings per share in the four pre-event quarters relative to the same quarter values in the previous year deflated by the stock price at the beginning of the pre-event period.
Δ*LTPINST*	=	Change in long-term institutional ownership calculated as the change in the percentage of shares held by long-term institutional investors in quarter *t*-1 relative to quarter *t*-4. Following Yan and Zhang (2009), an institutional investor is classified as a long-term investor if its past four-quarter turnover rate ranks in the bottom tercile.
Δ*MBANALYST*	=	Change in the percentage of quarters for which the firm meets or beats analysts' forecast in the year of the pre-event period (from quarter *t*-4 to *t*-1) relative to the year before the pre-event period (from quarter *t*-8 to *t*-5).
Δ*PINST*	=	Change in the percentage of institutional ownership, calculated as the change in the percentage of shares held by institutional investors in quarter *t*-1 relative to quarter *t*-4.
Δ*VOLATILITY*	=	Change in the standard deviation of daily stock returns calculated over the year of the pre-event period (from quarter *t*-4 to *t*-1) relative to the standard deviation of daily stock returns measured over the year before the pre-event period (from quarter *t*-8 to *t*-5).

DP	=	Dividend yield, calculated as the cash dividend divided by the share price at the end of quarter *t*.
LITI	=	Indicator variable equal to one if the firm is in a litigious industry (standard industrial classification 2833–2836, 3570–3577, 3600–3674, 5200–5961, 7370–7374, and 8731–8734) and zero otherwise.
LNCT	=	Number of management quarterly forecasts made through quarter *t*-1 in the CIG database scaled by the number of available quarters through quarter *t*-1.
LOSS	=	Proportion of quarters in a firm's four pre-event quarters in which the firm reported negative earnings per share.
LTPINST	=	Long-term institutional ownership (in percentage of shares outstanding). Following Yan and Zhang (2009), an institutional investor is classified as a long-term investor if its past four-quarter turnover rate ranks in the bottom tercile.
MB	=	Market-to-book equity ratio, measured as the market value of equity divided by the book value of equity.
One-year REV	=	Average of all individual analysts' one-year forecast revision, in which forecast revision is the new one-year forecast on day *i* less the analysts' own prior one-year forecast on day *j* scaled by the share price on day *j*-1.
P	=	Share price at the end of the fiscal year.
PINST	=	Total institutional ownership (in percentage of shares outstanding).
POST	=	Indicator variable equal to one for quarters (or years) ending after the calendar quarter for which the firm stops quarterly management earnings guidance and zero otherwise. Each control firm is assigned an artificial stopping quarter even though it has never stopped quarterly guidance.
PRC	=	Natural logarithm of the share price.
PVAX	=	Present value of the abnormal earnings component that captures the portion of firm value that will be realized through accounting earnings within the one-year horizon.
PVTV	=	Present value of the abnormal earnings component that captures the portion of firm value that will be realized through accounting earnings beyond the one-year horizon.
RECENT_HIRE	=	Indicator variable equal to one if the CEO was hired during the period from fiscal year *t*-3 to fiscal year *t*-1.
$RET_{-3,0}$	=	Cumulative gross return over the past three months.
$RET_{-12,-3}$	=	Cumulative gross return over the nine months preceding the beginning of the previous quarter.
RETURN	=	Buy-and-hold returns over the previous year.
SIZE	=	Natural logarithm of the market value of equity.
SMISS	=	Number of times the firm misses the latest quarterly consensus analyst forecast by a penny or less during the fiscal year.
SP500	=	Indicator variable equal to one for S&P 500 index membership and zero otherwise.
STPINST	=	Short-term institutional ownership (in percentage of shares outstanding). Following Yan and Zhang (2009), an institutional investor is classified as a short-term investor if its past four-quarter turnover rate ranks in the top tercile.
STOPPER	=	Indicator variable equal to one for quarterly earnings guidance stoppers and zero otherwise.
TURNOVER	=	Average monthly turnover over the past three months.
Two-year REV	=	Average of all individual analysts' two-year forecast revision, in which forecast revision is the new two-year forecast in day *i* less the analysts' own prior two-year forecast on day *j* scaled by the share price on day *j*-1.
VOL	=	Volatility measured as the standard deviation of monthly returns over the previous two years.

Appendix 2: Firms' short-term and long-term earnings

Following the literature (e.g., Ohlson 1995; Frankel and Lee 1998; Bushee 2001), we use the following model to calculate a firm's short-term earnings (*PVAX*) and long-term earnings (*PVTV*).

Ohlson (1995) shows that firm value (proxied by stock price *P*) can be represented as book value (*BV*) plus the expected present value of all future abnormal earnings. Abnormal earnings are defined as actual earnings minus normal earnings, in which normal earnings are defined as the prior book value times a rate of return (proxied by the cost of equity capital r_e). Frankel and Lee (1998) extend the valuation model by assuming that the forecasted earnings in the second year can be earned in perpetuity. Hence we use the following model to estimate *PVAX* and *PVTV*.

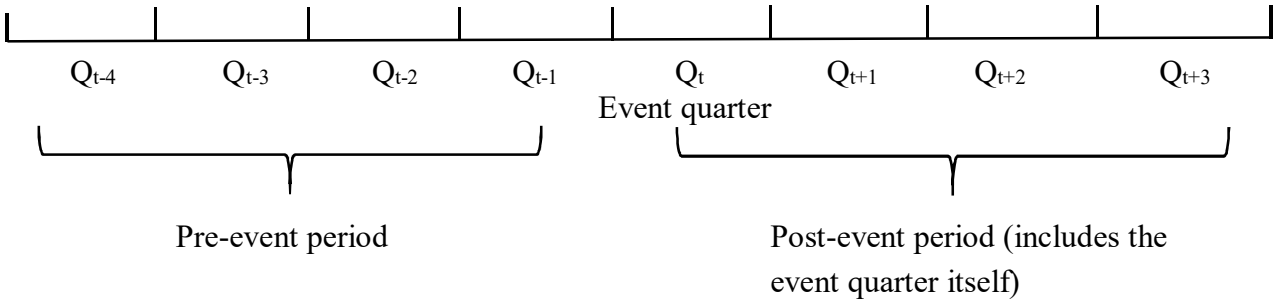
$$P_t = B_t + \frac{(FROE_t - r_e)}{(1+r_e)} B_t + \frac{(FROE_{t+1} - r_e)}{(1+r_e)^2 r_e} B_{t+1} = B_t + PVAX + PVTV \quad \text{(A1)}$$

Variables are defined in the following table.

Variable		Definition
B_t	=	Book value at the end of fiscal year *t* calculated as $B_t = B_{t-1}\left[1 + FROE_t(1-k)\right]$, where *k* is the dividend payout ratio in fiscal year *t*-1, which is defined as the common stock dividends paid in the most recent year divided by net income before extraordinary items. Following Frankel and Lee (1998), if net income is not greater than zero, *k* is defined as dividends divided by 6% of total assets.
$FROE_t$	=	Future *ROE*, which is estimated using consensus I/B/E/S analyst forecasts measured as $FROE_t = FY1 / B_t$, where *FY1* is the one-year-ahead I/B/E/S consensus EPS forecast.
$FROE_{t+1}$	=	Two-year-ahead forecasted *ROE* measured as $FROE_{t+1} = FY2 / B_{t+1}$, where *FY2* is the two-year-ahead I/B/E/S consensus EPS forecast.
r_e	=	Cost of equity capital derived from the capital asset pricing model (CAPM): $r_e = r_f + \beta[E(r_m) - r_f]$.
r_f	=	One-month Treasury bill rate.
β	=	Firm-specific betas derived from regressions of daily returns on market returns over fiscal year *t*-1.
$E(r_m) - r_f$	=	Market risk premium. Following Subramanyam and Venkatachalam (2007), we use 6% as the market risk premium.

Figure 1 Timelines

Panel A: Timeline to identify stoppers and maintainers, (Sample period 2001Q1 to 2010Q4)



Panel B: Timeline for hypotheses testing (Sample period: Quarters or years from 2001 to 2012)

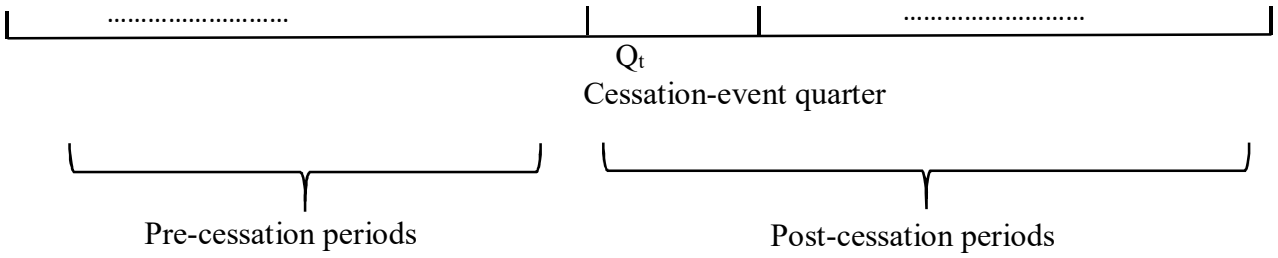


Table 1 Sample selection

	Number of distinct firms	
Sample	*S1*	*S2*
Initial sample from CIG database for the period from 2001Q1 to 2010Q4	4,792	4,792
After requiring at least three out of four consecutive quarters with quarterly earnings guidance	1,639	1,639
After merging with Compustat, CRSP, ExecuComp and I/B/E/S databases, and removing firms in financial industries[a]	1,043	1,043
After removing stoppers that issue sporadic guidance afterward[b]	906	906
Identified stoppers and maintainers based on propensity-score matching[c]	432	446
Sample firms in various tests		
Long-term institutional ownership test	425	433
Valuation test	432	446
Stock return reaction test	396	411
Chief executive officer turnover sensitivity test	432	446

[a] If the firm is delisted within six quarters after stop earnings guidance, it is defined as a delisted firm and removed from our sample.
[b] We verify whether stoppers ceased guidance by searching Factiva and delete firms that issue guidance in future periods from the sample.
[c] The identification of stoppers and maintainers is discussed in Section 3.

Table 2 Propensity-score matching (PSM)

Panel A: Estimation of logistic regression

Dependent variable =	$LN(\frac{Prob(STOPPER = 1)}{1 - Prob(STOPPER = 1)})$	
	(1)	(2)
	S1	*S2*
Variable	Coefficient	Coefficient
Intercept	-1.166***	-4.252***
	(-2.78)	(-3.68)
Δ*EPS*	-1.780	-1.079
	(-1.12)	(-0.79)
LOSS	0.387**	0.537***
	(1.97)	(3.56)
BHR	-1.297***	-1.336***
	(-3.93)	(-4.72)
Δ*MBANALYST*	-0.237	-0.292
	(-0.95)	(-1.38)
Δ*VOLATILITY*	39.419***	51.891***
	(2.85)	(2.79)
Δ*DISP*	9.281	-50.119
	(0.29)	(-1.38)
Δ*ANALYST*	0.002	0.006
	(0.18)	(0.49)
Δ*PINST*	-0.787	-1.007
	(-0.99)	(-1.30)
Δ*LTPINST*	0.655	0.482
	(0.67)	(0.63)
LITI	-0.782***	0.078
	(-4.66)	(0.39)
SIZE	0.058	-0.020
	(1.12)	(-0.36)
MB	-0.072	-0.070
	(-1.65)	(-1.39)
CEOTURNOVER	0.397*	0.478**
	(1.77)	(2.26)
CFOTURNOVER	0.683**	0.511**
	(2.21)	(2.02)
LNCT	-0.356	-0.154
	(-1.01)	(-0.69)
Industry fixed effects	Included	Included
Year-quarter fixed effects	Included	Included
N	906	20,165
Pseudo *R*-squared	0.152	0.143

Table 2 – cont'd

Panel B: Difference in the mean of firm characteristics after PSM procedure

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	S1				*S2*			
Variable	Stoppers	Maintainers	Difference	*t*-statistic	Stoppers	Maintainers	Difference	*t*-statistic
PSMSCORE	0.322	0.312	0.010	0.88	0.041	0.030	0.011	2.17
Δ*EPS*	-0.004	-0.002	-0.002	-0.39	-0.005	-0.001	-0.004	-1.29
LOSS	0.220	0.243	-0.023	-0.65	0.223	0.185	0.038	0.49
BHR	-0.131	-0.102	-0.029	-1.26	-0.134	-0.100	-0.034	-1.43
Δ*MBANALYST*	-0.072	-0.051	-0.021	-0.69	-0.069	-0.033	-0.036	-1.11
Δ*VOLATILITY*	0.001	0.000	0.001	0.71	0.001	0.003	-0.002	-1.36
Δ*DISP*	0.000	0.000	-0.000	-0.25	0.000	0.000	0.000	0.33
Δ*ANALYST*	0.064	0.045	0.019	0.22	0.066	0.101	-0.035	-0.79
Δ*PINST*	-0.002	0.004	-0.006	-0.57	-0.004	0.003	-0.007	-0.51
Δ*LTPINST*	0.015	0.020	-0.005	-0.59	0.014	0.002	0.012	1.07
LITI	0.349	0.402	-0.053	-0.89	0.325	0.386	-0.061	-1.39
SIZE	6.857	6.777	0.080	0.47	6.836	6.959	-0.123	-1.25
MB	2.352	2.390	-0.038	-0.25	2.325	2.493	-0.168	-0.83
CEOTURNOVER	0.153	0.129	0.024	0.70	0.157	0.138	0.019	1.10
CFOTURNOVER	0.075	0.055	0.020	1.06	0.088	0.115	-0.027	-1.03
LNCT	0.533	0.514	0.019	0.78	0.528	0.505	0.023	1.16

Table 2 – cont'd

Panel C: Yearly distribution of sample after PSM procedure

	S1		*S2*	
Year	Stoppers	Maintainers	Stoppers	Maintainers
2002	13	32	13	12
2003	32	26	34	36
2004	12	31	12	11
2005	23	31	24	27
2006	32	21	36	35
2007	20	23	19	16
2008	45	22	45	39
2009	33	16	34	41
2010	6	14	6	6
Total	216	216	223	223

Table 2 – cont'd

Panel D: Industry distribution of sample after PSM procedure

Industry (SIC) distribution	Frequency				Percentage			
	S1		*S2*		*S1*		*S2*	
	Stopper	Maintainer	Stopper	Maintainer	Stopper	Maintainer	Stopper	Maintainer
Oil and gas (13, 29)	7	5	4	3	3.2	2.3	1.8	1.3
Food products (20)	6	5	6	4	2.8	2.3	2.7	1.8
Paper and paper products (24–27)	15	5	15	10	6.9	2.3	6.7	4.5
Chemical products (28)	12	12	12	17	5.6	5.6	5.4	7.6
Manufacturing (30–34)	13	12	11	14	6.0	5.6	4.9	6.3
Computer equipment and services (35, 73)	47	53	42	58	21.8	24.5	18.8	26.0
Electronic equipment (36)	20	22	21	11	9.3	10.2	9.4	4.9
Transportation (37, 39, 40–42, 44, 45)	16	12	17	8	7.4	5.6	7.6	3.6
Scientific instruments (38)	16	18	17	25	7.4	8.3	7.6	11.2
Communications (48)	8	5	8	6	3.7	2.3	3.6	2.7
Electric, gas, and sanitary services (49)	10	1	10	2	4.6	0.5	4.5	0.9
Durable goods (50)	6	7	6	9	2.8	3.2	2.7	4.0
Retail (53, 54, 56, 57, 59)	8	26	9	20	3.7	12.0	4.0	9.0
Eating and drinking establishments (58)	9	4	9	8	4.2	1.9	4.0	3.6
Entertainment services (70, 78, 79)	8	4	8	6	3.7	1.9	3.6	2.7
Health (80)	3	1	3	1	1.4	0.5	1.3	0.4
All others	12	24	25	21	5.6	11.1	11.2	9.4

See Appendix 1 for variable definitions. In Panel A, *z*-statistics are shown in parentheses. *, **, and *** represent two-tailed significance at the 10%, 5%, and 1% levels, respectively. *N* denotes the number of firm-quarter observations in Panel A. SIC = standard industrial classification.

Table 3 Descriptive statistics

Variable	Mean	Standard deviation	Median	Mean	Standard deviation	Median
		S1			*S2*	
Long-term institutional ownership test						
PINST	0.699	0.204	0.745	0.693	0.205	0.736
LTPINST	0.343	0.132	0.347	0.337	0.132	0.341
STPINST	0.115	0.071	0.103	0.114	0.071	0.102
LTPINST/PINST	0.472	0.097	0.464	0.470	0.099	0.461
STPINST/PINST	0.224	0.056	0.223	0.226	0.057	0.224
LTPINST/STPINST	2.360	1.241	2.089	2.346	1.295	2.070
SIZE	6.827	1.685	6.825	6.963	1.712	6.917
AGE	4.107	0.750	4.094	4.128	0.749	4.127
DP	0.005	0.010	0.000	0.005	0.010	0.000
MB	2.361	3.138	2.051	2.382	3.009	2.160
PRC	2.863	0.966	3.053	2.870	0.961	3.062
TURNOVER	0.055	0.226	0.022	0.054	0.221	0.022
VOL	0.137	0.080	0.118	0.135	0.079	0.115
SP500	0.182	0.442	0.000	0.237	0.425	0.000
$RET_{-3,0}$	0.031	0.214	0.032	0.032	0.212	0.032
$RET_{-12,-3}$	0.097	0.386	0.090	0.098	0.383	0.091
Valuation test						
P	22.455	12.548	22.640	21.852	12.157	22.210
BV	10.843	6.821	9.542	10.247	6.690	9.028
PVAX	0.062	1.849	0.051	0.126	1.888	0.081
PVTV	9.317	20.093	1.705	9.572	19.961	1.881
Stock return reaction test						
CAR	0.001	0.055	0.000	0.001	0.055	0.000
One-year REV	-0.113	1.149	-0.005	-0.138	1.190	0.000
Two-year REV	-0.200	1.220	-0.036	-0.202	1.273	-0.039
SIZE	6.985	1.531	7.155	7.095	1.598	7.159
MB	2.834	1.896	2.253	2.961	1.988	2.345
BETA	1.158	0.773	1.115	1.125	0.759	1.079
Chief executive officer turnover sensitivity test						
CEO_FIRE	0.118	0.322	0.000	0.110	0.313	0.000
SMISS	0.025	0.085	0.000	0.029	0.090	0.000
BMISS	0.232	0.276	0.250	0.231	0.273	0.250

SIZE	6.828	1.503	6.824	6.975	1.479	6.912
MB	2.382	3.425	2.276	2.298	2.896	2.320
CEO_TENURE	1.194	1.012	1.098	1.229	1.008	1.386
RECENT_HIRE	0.581	0.493	1.000	0.558	0.497	1.000
CROA	0.002	0.094	0.000	0.002	0.091	0.000
RETURN	0.071	0.362	0.000	0.055	0.330	0.000
VOL	0.136	0.114	0.110	0.122	0.070	0.106

See Appendix 1 for variable definitions.

Table 4 Guidance cessation and investor clientele

Dependent Variable =	*LTPINST/PINST*	*STPINST/PINST*	*LTPINST/STPINST*	*LTPINST/PINST*	*STPINST/PINST*	*LTPINST/STPINST*
	(1)	(2)	(3)	(4)	(5)	(6)
		S1			*S2*	
Variable	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient
Intercept	0.509***	0.298***	1.915***	0.477***	0.208***	3.665***
	(11.90)	(6.71)	(8.76)	(11.84)	(8.86)	(7.61)
STOPPER	0.006***	0.001	0.003	-0.000	-0.001	0.032
	(3.57)	(1.01)	(0.22)	(-0.13)	(-0.72)	(0.81)
POST	0.001	0.003*	-0.016	-0.004	0.005**	-0.049
	(0.71)	(1.85)	(-0.92)	(-0.98)	(2.94)	(-1.11)
POST*STOPPER	**0.004***	**-0.003***	**0.052****	**0.012*****	**-0.007****	**0.114****
	(1.72)	**(-1.66)**	**(2.50)**	**(2.58)**	**(-2.53)**	**(2.42)**
SIZE	-0.027***	0.000	-0.133***	-0.025***	0.011***	-0.361***
	(-15.56)	(0.46)	(-9.25)	(-11.47)	(8.89)	(-8.24)
AGE	0.011***	-0.005***	0.098***	0.014***	-0.007***	0.093*
	(6.22)	(-7.62)	(11.23)	(4.85)	(-3.32)	(1.89)
DP	0.632***	-0.244***	3.760***	0.297	-0.282***	4.441**
	(5.35)	(-4.67)	(5.89)	(1.47)	(-3.29)	(2.15)
MB	-0.000	-0.000	-0.001	-0.001	0.000	-0.008**
	(-0.88)	(-0.38)	(-0.56)	(-1.15)	(1.67)	(-2.35)
PRC	-0.002**	0.003***	-0.029***	-0.007**	0.002	-0.014
	(-2.11)	(3.45)	(-2.65)	(-2.21)	(0.58)	(-0.28)
TURNOVER	-0.015***	-0.005**	-0.014	-0.018*	0.008	-0.304
	(-2.73)	(-2.52)	(-0.60)	(-1.67)	(1.24)	(-1.68)
VOL	-0.038***	0.076***	-0.743***	-0.071***	0.129***	-1.448***
	(-2.67)	(9.70)	(-7.73)	(-2.60)	(6.18)	(-3.64)
SP500	0.011***	0.001	0.041**	0.007	-0.004	0.225***
	(3.39)	(0.34)	(2.17)	(1.22)	(-1.21)	(3.50)
$RET_{-3,0}$	0.004	0.005*	0.001	0.002	0.009*	-0.083
	(1.42)	(1.91)	(0.13)	(0.52)	(1.93)	(-0.89)
$RET_{-12,-3}$	-0.018***	0.012***	-0.157***	-0.022***	0.025***	-0.382***
	(-6.61)	(8.48)	(-8.92)	(-7.20)	(8.98)	(-5.28)
Industry fixed effects	Included	Included	Included	Included	Included	Included
Year-quarter fixed effects	Included	Included	Included	Excluded	Excluded	Excluded
N	12,183	12,183	12,183	13,162	13,162	13,162
Adj. *R*-squared	0.445	0.337	0.373	0.433	0.350	0.333

See Appendix 1 for variable definitions. *t*-statistics are shown in parentheses. *, **, and *** represent two-tailed significance at the 10%, 5%, and 1% levels, respectively. *N* denotes the number of firm-quarter observations.

Table 5 Guidance cessation and firm valuation

Dependent variable =	*P*			
	(1)	(2)	(3)	(4)
	S1		*S2*	
Variable	Coefficient	Coefficient	Coefficient	Coefficient
Intercept	6.303**	9.989***	10.332***	11.198***
	(2.07)	(4.22)	(8.05)	(4.83)
BV	1.553***	1.190***	1.034***	1.143***
	(49.50)	(20.22)	(45.97)	(21.67)
PVAX	1.509***	0.453**	0.917***	0.548**
	(13.41)	(1.98)	(11.07)	(2.02)
PVTV	0.082***	0.111***	0.044***	0.108***
	(8.03)	(3.96)	(5.89)	(4.15)
STOPPER		2.515***		2.024**
		(2.73)		(2.50)
POST		-1.652**		-1.216*
		(-1.97)		(-1.65)
*POST*STOPPER*		-2.572**		-2.902***
		(-2.27)		(-2.78)
*BV*STOPPER*		-0.148*		-0.220***
		(-1.94)		(-3.12)
*BV*POST*		0.025		-0.086
		(0.37)		(-1.33)
*BV*POST*STOPPER*		0.067		0.201**
		(0.75)		(2.31)
*PVAX*STOPPER*		0.699**		0.483
		(2.17)		(1.38)
*PVAX*POST*		0.736***		0.551*
		(2.62)		(1.80)
PVAX*POST*STOPPER		**-0.882****		**-0.964****
		(-2.29)		**(-2.43)**
*PVTV*STOPPER*		-0.054		-0.039
		(-1.43)		(-1.10)
*PVTV*POST*		-0.085***		-0.072**
		(-2.80)		(-2.51)
PVTV*POST*STOPPER		**0.075***		**0.068***
		(1.78)		**(1.75)**
Industry fixed effects	Included	Included	Included	Included
Year fixed effects	Included	Included	Excluded	Excluded
N	3,933	3,933	4,171	4,171
Adj. *R*-squared	0.542	0.555	0.508	0.535

See Appendix 1 for variable definitions. *t*-statistics are shown in parentheses. *, **, and *** represent two-tailed significance at the 10%, 5%, and 1% levels, respectively. *N* denotes the number of firm-year observations.

Table 6 Guidance cessation and stock return reaction on analyst forecast revision

Dependent variable =	*CAR*							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	S1				*S2*			
	One-year REV		*Two-year REV*		*One-year REV*		*Two-year REV*	
Variable	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient
Intercept	0.001	0.005	0.008	0.000	-0.003	-0.003	0.004	-0.002
	(0.18)	(0.63)	(1.17)	(0.04)	(-0.47)	(-0.38)	(0.60)	(-0.29)
REV	0.005***	0.005***	0.008***	0.013***	0.005***	0.005***	0.007***	0.006***
	(12.90)	(5.79)	(18.13)	(12.17)	(13.41)	(9.70)	(17.31)	(4.93)
STOPPER		-0.001		0.000		0.001		-0.000
		(-0.86)		(0.11)		(0.53)		(-0.21)
POST		-0.003**		0.000		-0.013		-0.012***
		(-2.17)		(0.15)		(-0.73)		(-5.95)
*POST*STOPPER*		-0.001		-0.002		0.009		0.009***
		(-0.41)		(-1.17)		(0.55)		(3.57)
*REV*STOPPER*		0.001		-0.005***		0.002		0.003
		(0.61)		(-3.23)		(1.50)		(1.28)
*REV*POST*		-0.001		-0.007***		0.001		-0.005**
		(-0.72)		(-5.06)		(0.62)		(-2.38)
REV*POST*STOPPER		**-0.002***		**0.004****		**-0.004****		**0.010****
		(-1.88)		**(2.36)**		**(-2.57)**		**(2.24)**
SIZE	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
	(0.81)	(0.91)	(1.04)	(0.72)	(0.16)	(0.23)	(0.52)	(0.38)
MB	0.001***	0.001***	0.001**	0.001*	0.001***	0.001***	0.001**	0.001**
	(3.13)	(3.00)	(2.00)	(1.83)	(2.99)	(2.87)	(2.36)	(2.05)
BETA	0.000	0.000	0.001	0.000	0.001	0.001	0.000	0.000
	(0.69)	(0.55)	(0.51)	(0.49)	(1.35)	(1.32)	(0.52)	(0.37)
Industry fixed effects	Included	Included	Included	Included	Included	Included	Included	Included
Year-quarter fixed effects	Included	Included	Included	Included	Excluded	Excluded	Excluded	Excluded
N	12,029	12,029	11,472	11,472	12,871	12,871	12,652	12,652
Adj. *R*-squared	0.021	0.022	0.038	0.038	0.024	0.024	0.032	0.033

See Appendix 1 for variable definitions. *t*-statistics are shown in parentheses. *, **, and *** represent two-tailed significance at the 10%, 5%, and 1% levels, respectively. *N* denotes the number of firm-quarter observations.

Table 7 Guidance cessation and chief executive officer turnover sensitivity

Dependent variable =	$LN(\frac{Prob(CEO\_FIRE=1)}{1-Prob(CEO\_FIRE=1)})$			
	(1)	(2)	(3)	(4)
	S1		*S2*	
Variable	Coefficient	Coefficient	Coefficient	Coefficient
Intercept	0.212***	0.196***	0.250***	0.182**
	(4.02)	(3.73)	(4.42)	(2.08)
SMISS	0.083*	0.043	0.087*	0.133*
	(1.69)	(0.47)	(1.73)	(1.94)
BMISS	0.079***	0.222***	0.038**	0.048*
	(4.53)	(5.89)	(2.13)	(1.83)
STOPPER		-0.001		0.014
		(-0.10)		(1.00)
POST		0.003		0.112***
		(0.16)		(2.68)
*POST*STOPPER*		-0.013		-0.132***
		(-0.55)		(-2.97)
*SMISS*STOPPER*		0.036		-0.037
		(0.27)		(-0.33)
*SMISS*POST*		0.210		0.190
		(1.47)		(0.75)
SMISS*POST*STOPPER		**-0.300****		**-0.505***
		(-1.97)		**(-1.76)**
*BMISS*STOPPER*		-0.155***		-0.001
		(-3.08)		(-0.15)
*BMISS*POST*		-0.176***		-0.165**
		(-3.48)		(-2.40)
BMISS*POST*STOPPER		**0.158****		**0.224*****
		(2.32)		**(3.01)**
SIZE	0.015***	0.021***	0.016***	0.020***
	(5.13)	(6.48)	(4.38)	(5.02)
MB	-0.021	-0.030	-0.125**	-0.179***
	(-0.42)	(-0.61)	(-2.46)	(-3.42)
CEO_TENURE	-0.135***	-0.139***	-0.131***	-0.137***
	(-8.31)	(-8.68)	(-8.03)	(-8.62)
RECENT_HIRE	-0.066***	-0.073***	-0.064***	-0.071***
	(-3.73)	(-4.13)	(-3.72)	(-4.10)
CROA	-0.003	0.008	-0.013	0.004
	(-0.17)	(0.15)	(-0.25)	(0.17)
RETURN	-0.008	-0.008	-0.013	-0.013
	(-0.58)	(-0.58)	(-0.79)	(-0.85)
VOL	0.065	0.057	0.149	0.115
	(0.95)	(0.88)	(1.48)	(1.19)
Industry fixed effects	Included	Included	Included	Included
Year fixed effects	Included	Included	Excluded	Excluded
N	4,297	4,297	4,403	4,403
Pseudo *R*-squared	0.138	0.141	0.130	0.136

See Appendix 1 for variable definitions. *z*-statistics are shown in parentheses. *, **, and *** represent two-tailed significance at the 10%, 5%, and 1% levels, respectively. *N* denotes the number of firm-year observations.