Long-Term Earnings Guidance:
Implications for Managerial and Investor Short-Termism

Andrew C. Call
andycall@asu.edu
Arizona State University

Shuping Chen[*]
shuping.chen@mccombs.utexas.edu
University of Texas at Austin

Adam Esplin
aesplin@ualberta.ca
University of Alberta

Bin Miao
miaobin@nus.edu.sg
National University of Singapore

May 2016

Abstract: Motivated by the call for remedies to mitigate managerial and investor short-termism, we study whether managers' long-term earnings guidance – earnings guidance for earnings 3-5 years ahead – impacts managerial myopia and investor focus on short-term results. We manually identify 1,709 long-term earnings forecasts issued by 289 unique firms from 2000-2012, and compare these firms to matched control firms that regularly issue short-term earnings guidance. Our tests show no difference in investment level, investment sensitivity, or the tendency to meet or just beat quarterly earnings between long-term guidance firms and control firms. Similarly, we do not find that investors react differently to quarterly earnings news or short-term guidance news following the issuance of long-term guidance. Further difference-in-difference analyses yield similar results. This null evidence is consistent with the theoretical implication that long-term earnings guidance does not alter the mix of hard information versus soft information. Our paper informs both practitioners and managers on the effectiveness of long-term guidance to mitigate managerial myopia, and contributes to the growing literature on the relationship between disclosure and myopia.

Long-Term Earnings Guidance:
Implications for Managerial and Investor Short-Termism

1. Introduction

The past two decades have seen rising criticism against corporate short-termism – undue managerial attention to quarterly earnings at the expense of long-term sustainable growth. One alleged cause of managerial short-termism is the practice of regularly issuing quarterly earnings guidance. Public policy think tanks, multiple investor groups and industry organizations argue that short-term earnings guidance leads to myopic behavior that distorts investment and encourages earnings management and investors' short-term focus (CFA Institute, 2006; The Aspen Institute, 2007; Committee for Economic Development, 2007; U.S. Chamber of Commerce, 2007; Karageorgiou and Serafeim, 2014). To mitigate short-termism, these organizations call for managers to cease giving quarterly earnings guidance and to instead "provide regular guidance on long-term performance" (Committee for Economic Development, 2007).

Proponents for long-term guidance are generally vague about what horizon constitutes "long term" or which form long-term guidance should take. We investigate one form of long-term guidance – managerial forecasts for earnings three to five years ahead – and study whether such long-term guidance mitigates managers' and investors' short-term focus. This investigation informs the policy debate on whether long-term earnings guidance is a viable solution to managerial and investor short-termism, and the findings should be of interest to managers under pressure to issue long-term guidance. Further, our paper adds to the larger literature on financial reporting and disclosure properties and managerial myopia (Fu, Kraft, Zhang 2012; Edmans, Heinle, and Huang 2016; Kraft, Vashishtha, and Venkatachalam 2016).

The assumption underlying the call for long-term guidance is that changing the guidance horizon from short-term to long-term will mitigate myopia by shifting managerial and investor focus to the long term. Recent theoretical insight indicates that whether such an assumption holds depends on whether long-term earnings guidance changes the amount of "hard" information, such as earnings information, relative to "soft", unverifiable information such as investment in intangibles (Edmans et al. 2016). Edmans et al. (2016) demonstrate that as long as the market is better at incorporating "hard" than "soft" information, disclosing more "hard" information will skew managers' real decisions toward improving hard measures of performance (such as improving earnings) at the expense of soft measures of performance (such as cutting investments). Under this theoretical framework, the extent to which long-term earnings guidance mitigates managerial myopia is a function of whether long-term earnings guidance decreases the amount of hard information relative to soft information.

Using keyword searches of multiple data sources, we manually identify a sample of 289 firms that issue 1,709 long-term earnings forecasts from 2000 to 2012. These long-term earnings forecasts are roughly evenly distributed across our sample period and across all four calendar quarters and are most frequently communicated in earnings announcements or conference calls. Over 81% of the forecasts are point or range forecasts, and the remainder are qualitative forecasts. The forecasted EPS growth rates are lower than past EPS growth rates, but higher than the subsequent actual growth rates in the years following the long-term guidance issuance. *Ceteris paribus*, compared to firms that regularly issue short-term guidance, long-term earnings guidance firms are larger, have lower ROA, lower return volatility, but more long-term earnings forecasts issued by analysts. These firms also have investors with longer holding horizons.

We compare these long-term guidance firms with two matched control samples of firms that regularly issue short-term earnings guidance – a size-and-industry-matched control sample and a propensity score matched control sample – on three important dimensions relevant to the ongoing discussion about short-termism. First, we examine the investment decisions made by long-term guidance firms. Inefficient investment is widely viewed as a primary manifestation of short-termism (e.g., CFA Institute, 2006; Fuller and Jensen 2010) and is also used in accounting and finance research to capture short-termism (Stein 1989; Bebchuk and Stole 1993; Asker, Farre-Mensa, and Ljungqvist, 2015; Kraft et al. 2016). Another concern with short-termism is that it encourages managers to manage reported earnings in order to meet short-term earnings targets (e.g., Buffett 2000; Committee for Economic Development 2007). We examine whether long-term guidance firms exhibit differential earnings management behavior when compared to control firms. Finally, we examine whether investors react differently to short-term earnings news in the presence of long-term earnings guidance. Though soft information is by definition not observable and unverifiable, this last test on investor reaction allows us to indirectly infer whether long-term earnings guidance changes the mix of hard versus soft information.

We find largely null results: long-term guidance firms do not differ from matched control firms in the level of investment in capital expenditures or property, plant, and equipment following the issuance of long-term earnings guidance. Nor do they exhibit different sensitivity to investment opportunities, or different tendencies to meet or just beat earnings targets, or different levels of accrual-based or real earnings management. Lastly, we find no difference in the investor reaction to short-term earnings news or short-term guidance news for firms that recently issued long-term guidance. The same "null" results obtain when we use a difference-in-difference (DiD) design that identifies a subsample of firms that initiate long-term earnings

guidance in our sampling period. Collectively, our results are consistent with long-term earnings guidance offering no change to the existing mix of "hard" versus "soft" performance measures firms disclose to the market.

We acknowledge that our inferences are based on "null" evidence. Null results can be problematic if they (a) do not revise prior beliefs, or (b) are due to improper research design. We believe our paper addresses the first concern and mitigates the second concern. First, long-term earnings guidance is a phenomenon both academic researchers and practitioners know little about, so understanding the association between this form of voluntary disclosure and outcomes of interest (e.g., investment and earnings management decisions, investor reaction to firm-level news) advances our understanding in important ways, especially given the widespread concern about managerial and investor short-termism. Second, our results are robust across two separate matched control samples, different measures of investment and earnings management, and a DiD test that addresses potential existing differences in myopia prior to long-term guidance issuance. The consistency of our findings increases our confidence that these results are not driven by inadequate research design.

We note two caveats with our study. First, in spite of the above, we acknowledge the possibility that our null evidence may be a result of small sample size and thus should be interpreted with caution. Second, because the debate about managerial short-termism (and the possible solutions) involves multiple stake holders – managers, different investor groups, and industrial organizations – and therefore encompasses multiple perspectives, our study is unlikely to address the entire debate. Instead, we provide the first step toward a better understanding of whether one form of long-term guidance currently provided by firms is associated with decreases in manager and investor short-termism.

Our paper has important practical implications and adds to both the voluntary disclosure literature and the larger literature on managerial myopia. First, our study provides timely evidence on the merits of long-term earnings guidance and informs the ongoing conversation about managerial and investor short-termism. While prior studies examine the costs and benefits of short-term guidance (Chen, Matsumoto, and Rajgopal 2011; Houston, Lev, and Tucker 2010; Call, Chen, Miao, Tong 2014), we take a different approach and explore one of the proposed alternatives to short-term earnings guidance and its effect on short-termism. Second, voluntary disclosure of various horizons (short-term vs. long-term) is an inherent aspect of corporate communication, and we provide new evidence on whether changing forecast horizon changes behavior. Third, our paper adds to the growing literature on factors impacting managerial myopia: this literature has examined the role of equity incentives, public versus private ownership, institutional investors and creditors, and mandatory reporting frequency (Edmans, Fang, and Lewellen 2015; Aghion, Reenen, and Zingales 2013; Bushee 1998; Huang, Ng, Roychowdury, and Sletten 2016; Kraft et al. 2016). Our findings suggest that long-term earnings guidance does not appear to change the existing information mix and as such is not associated with either managers' or investors' behavior.

The reminder of the paper is organized as follows. Section two reviews relevant literature, provides institutional background, and develops our empirical predictions. Section three describes our long-term guidance sample and selection of our control samples. Section four presents the research design and discusses the respective test results. Section five concludes.

2. Literature, background and empirical predictions

2.1 Relevant Literature

Our paper investigates the potential of role of different guidance horizon on manager and investor short-termism. We fit into a growing empirical literature examining the roles of CEO compensation, ownership structure, and financial reporting and disclosure on managerial myopia. For example, Edmans et al. (2015) link the horizon of CEO equity incentives to reduction in real investments. Aghion et al. (2013) find that institutional investors can insulate CEOs against bad income realizations in the short term, thus leading to more innovation. Huang et al. (2016) find that dedicated investors increase their ownership in response to an increase in creditor rights. This in turn leads to an overall decline in managerial myopia. Kraft et al. (2016) demonstrate that increasing mandatory reporting to quarterly frequency in 1950 to 1973 decreases real investments, consistent with an increase in corporate myopia. This finding corresponds closely with the theoretical prediction of Gigler, Kanodia, Sapra, and Venugopalan (2014) that increasing reporting frequency exacerbates short-term earnings pressure which leads managers to cut long-term investments.

At the center of the relationship between financial reporting and disclosure and real decisions is the tension between financial efficiency and real efficiency. Various theory studies have demonstrated that reducing information asymmetry reduces cost of capital and helps investors better monitor managers (see Bond, Edmans, and Goldstein (2012) for a survey). This implies that greater transparency, either through greater mandatory reporting frequency or more transparent disclosure, can improve price efficiency and discipline managers' decisions. Indeed, Fu, Kraft, and Zhang (2012) find that firms increasing their reporting frequency in 1950 to 1973 experience significant decreases in both information asymmetry and cost of capital. However, using the same setting, Kraft et al. (2016) find that firms increasing their reporting frequency decrease investments.

Edmans et al. (2016) provide theoretical guidance on these seemingly conflicting findings. They formalize the notion that improving financial efficiency – which lowers the cost of capital – can reduce real efficiency. Under the assumption that the financial markets are never fully efficient, these authors demonstrate that as long as stock price incorporates "hard" information such as earnings better than it does "soft", unverifiable, information such as investment in intangible assets, greater disclosure of earnings distorts the relative amount of hard versus soft information. This skews managers' real decisions towards improving hard measures of performance at the expense of soft measures of performance – for example, cutting intangible investment to increase current earnings. Real efficiency depends not on the total information available to the market but the ratio of "hard" versus "soft" information.

Following this logic, whether the issuance of long-term earnings guidance will affect managers' behavior hinges critically on whether such guidance will alter the existing mix of "hard" versus "soft" information. If long-term earnings guidance increases "hard" information relative to "soft" information, then it will lead to less investment and more earnings management, and vice versa if it decreases "hard" information relative to "soft" information. If the ratio of "hard" to "soft" information remains unchanged, then changing the horizon of managerial guidance alone would have no impact on managerial myopia or investor focus.

2.2 Background and Predictions

The rising sentiment against quarterly earnings guidance and the ensuing corporate myopia is aptly captured by the following paragraph from a 2007 report by the Committee for Economic Development:

> "Most observers view company forecasts of quarterly changes in earnings per share, and market reliance on those forecasts, as among the primary causes of short-term behavior – possibly including aggressive accounting by some

companies to "make their numbers," or postpone valuable long-term investments."[1]

Managers, on the other hand, argue that the capital market's collective emphasis on short-term performance prompts them to sacrifice investments in order to meet short-term earnings targets. In their influential survey of more than 400 executives, Graham, Harvey, and Rajgopal (2005) state: "CFOs argue that the system (i.e., financial market pressures and overreactions) encourages decisions that at times sacrifice long-term value to meet earnings target (page 5)."[2]

To curb short-termism, multiple industry organizations call for firms to issue long-term guidance. For example, the CFA Institute recommends that "companies with strategic needs for providing earnings guidance should adopt long-term fundamental guidance practices that incorporate a consistent format, range estimates, and appropriate metrics that reflect overall long-term goals and strategy" (CFA Institute 2006).

The assumption underlying these recommendations is that long-term guidance would mitigate managers' and investors' focus on short-term results. For example, a recent McKinsey & Company report argues that long-term guidance can "shift their [managers'] focus away from short-term performance and toward the drivers of long-term company health as well as … their long-term goals" (McKinsey & Company, 2006).

However, there are practical reasons and theoretical considerations indicating that the above assumption might not hold. First, even if managers issue long-term guidance, investors and analysts are likely to continue to demand short-term information for periodic assessments of managerial performance. Second, Edmans et al.'s (2006) theory suggests that if changing the horizon of guidance does not alter the information mix – hard versus soft information – firms

---

[1] Source: "Build to last: Focusing corporations on long term performance." (Committee for Economic Development, 2007).

[2] Nearly 80% of the surveyed executives admitted their willingness to cut investments in R&D and advertising and over 55% indicate they are willing to delay starting a new project in order to meet earnings targets.

disclose to the market, it is unlikely to change firms' investment and accounting decisions. Third, some governance activists argue that stopping short-term earnings guidance deprives shareholders of a valuable monitoring tool, which can in turn lead to managerial actions that destroy long-term firm value (Jangijian, 2003).[3]

Thus, whether the issuance of long-term earnings guidance can change managerial and investor short-term focus depends on both the demand for and existence of short-term information and the nature of the information mix as a result of long-term guidance. We summarize the above discussion as the following testable empirical predictions:

> *P1: The issuance of long-term earnings guidance is not associated with firms' investment behavior.*

> *P2: The issuance of long-term earnings guidance is not associated with firms' earnings management behavior.*

> *P3: The issuance of long-term earnings guidance is not associated with investors' reaction to short-term earnings and short-term guidance news.*

3. Long-Term Guidance Sample and Control Samples

3.1   Long-Term Guidance Sample

While most recommendations from investor and practitioner groups do not explicitly define the horizon of long-term guidance, analysts contributing to I/B/E/S frequently issue earnings forecasts for a three-to-five year horizon.[4] Many firms in their press releases also use this three-to-five year horizon when discussing their long-term prospects. We therefore define long-term earnings guidance as management forecasts of earnings with a horizon of three-to-five years ahead. This definition is in line with practitioners' implicit proposals for long-term

---

[3] A recent article in *The Economist* further argues that a short-term focus may not always be bad because a short-term focus allows quicker identification of bad projects and quicker shifting of capital to new investment opportunities (*The Economist*, Schumpeter, 2014).
[4] The Thomson Reuters (*I/B/E/S*) (2009) *Methodology for Estimates* manual states: "The long-term growth rate represents an expected annual increase in operating earnings over the company's next full business cycle. These forecasts refer to a period between three and five years and are expressed as a percentage."

earnings guidance. For example, a report issued by the Committee for Economic Development states: "Medium-term indicators might point toward the likelihood the company could maintain performance over one to five years" (Committee for Economic Development, 2007).

We use a series of keyword searches for mentions of long-term guidance in the business press over the period January 1, 2000 to December 31, 2012.[5] Our search for long-term forecasts encompasses the *Dow-Jones News Service*, the *Wall Street Journal*, *PR News Wire*, *Business News Wire*, and conference call transcripts via the Fair Disclosure database. We read over 8,000 articles retrieved in our search to identify our sample of long-term earnings guidance. This process yields a total of 289 unique firms and 895 firm-year observations from 1,709 long term earnings forecasts from 2000 to 2012 before imposing any data restrictions. We refer to our long-term earnings guidance sample as the LTG sample.

We present descriptive statistics on the characteristics of the LTG sample in Table 1. Panel A tabulates the venues from which we obtain our LTG sample. More than half of the long-term earnings guidance in our sample is communicated in earnings announcement press releases or during the associated earnings conference calls. Another 18% comes from press releases associated with investor conferences, and the rest 29% comes from financial press such as the *Dow Jones News Wire* or the *Wall Street Journal*.[6]

---

[5] The search terms we use include variations of the following string to accommodate different databases: "(management or manager or CEO or chief executive* or CFO or chief finance* or company or firm) and ((anticipates or expect* or predict* or forecast* or see* or project* or put* or estimate) near10 (five year near3 earn*) or (three year near3 earn*) or (long term near3 earn*) or (five year near3 eps) or (three year near3 eps) or (long term near3 eps))". We start our search in 2000 to mitigate errors in the measurement of earnings guidance that are not captured by the Company Issued Guidance (CIG) database prior to Regulation FD. We further augment our sample by identifying 78 long-term forecasts captured by the CIG database and 6 long-term forecasts identified by I/B/E/S. To ensure the completeness of our search, one author and one research assistant conducted independent searches using various combinations of the search strings using the same data sources.

[6] We classify the following as investor conferences: annual general meetings, analyst days, and other investor meetings.

Panel B shows that LTG issuance increases from a low of 58 in 2000, the beginning of our sample period, to peak at 177 observations in 2007. This rise roughly coincides with the increasing intensity of the call for long-term guidance in the popular press. The number of firms issuing LTG (289 unique firms) is small compared to the 6,188 unique firms that appear in the CIG/IBES guidance database during our sampling period. Thus, despite the fact that many prominent investors and important industry groups urge firms to issue longer-term guidance, in practice not many firms have done so.

About one-third of the long-term forecasts are point forecasts (566 ÷ 1,709), and the remaining forecasts are range forecasts. More than 72% (826 ÷ 1,143) of the range forecasts are numeric. For example, AES Corporation, a Fortune 200 global power company, stated in their April 28, 2004 press release that "we would expect to see a range of EPS growth rates through 2008 of 17 to 23 percent." The other 28% of range forecasts are non-numeric, and take the form of qualitative guidance. To illustrate, on their November 2005 earnings call, the large school and office supplier ACCO Brands Corp. indicated that long-term earnings would be "in the low double digits." We also note that 52% (894 ÷ 1,709) of all long-term forecasts in our sample are issued within one day of the issuance of quarterly or annual guidance, per the CIG/IBES guidance files, while all other forecasts are issued as stand-alone earnings guidance. Finally, the LTG observations are roughly evenly distributed across fiscal quarters. In Appendix B we provide detailed examples of the long-term forecasts in our sample.

Panel C of Table 1 reveals some industry clustering of long-term earnings guidance issuance, with the LTG observations being clustered in the Shops, Consumer Non-Durables, Utilities, and Finance industries. In our subsequent tests we include industry fixed effects and year fixed effects in our empirical models.

In Panel D, we gauge the *ex ante* and *ex post* optimism in the long-term EPS forecasts. We include all point and numeric range guidance (using the midpoint of the range), and annualize all growth rates implied in the long-term guidance. *Ex ante* (*ex post*) optimism is measured as the annualized forecasted EPS growth rate implied in the long-term guidance in year *t* minus past (future) three years' actual EPS growth rate.[7] Both the mean and median projected long-term EPS growth rates in LTG are lower than the actual growth rate from year *t-4* to year *t-1*, but higher than the realized growth rate from year *t* to year *t+3*, suggesting that LTG firms are experiencing slower earnings growth over time.

3.2   Control samples

We recognize that firms issuing long-term earnings guidance may differ systematically from firms that do not. Because the determinants of long-term earnings guidance issuance may be associated with investment decisions and/or the incentives to manage earnings, we compare firms that issue long-term guidance to two matched control samples of firms that regularly provide short-term earnings guidance. We discuss our sampling process below.

Our control sample pool consists of firms that regularly issue short-term earnings guidance, earnings guidance issued within 90 days of fiscal year end, per CIG/IBES guidance database.[8] We define regular guiders as firms that appear at least three out of four quarters in any given year on CIG/IBES guidance files. Of the 6,188 unique firms on CIG/IBES during our sampling years of 2000-2012, 1,355 unique firms are classified as regular guiders resulting in 5,493 control firm-year observations. Note we exclude firms that have not issued any guidance and "sporadic" guidance issuers. We do this for two reasons. First, the debate that motivates our

---

[7] The number of observations for calculating guidance growth rate is fewer than the total number of point and numeric range guidance in Panel B as we do not include EPS forecasts in this calculation and also due to missing Compustat data.

[8] This definition of short-term guidance includes both quarterly earnings guidance and annual guidance issued within 90 days of fiscal year end. Results are robust if we change the definition of short-term guidance to quarterly earnings guidance only.

study is whether long-term guidance mitigates myopia made possible by regular short-term earnings guidance. As such, firms that issue no guidance or firms that issue guidance only sporadically are less relevant to this debate. Second, a large body of literature has documented that firms issuing earnings guidance differ systematically from those not issuing guidance (for a literature review see Beyer, Cohen, Lys and Walther, 2010). Limiting the analysis to firms that have regularly issued guidance holds these differences constant and allows us to draw cleaner inferences.

We form two control samples for our empirical tests on the impact of issuing LTG using two matching procedures: a pair-wise matching procedure based on firm size (total assets) and industry (Fama-French 12 Industry) and a propensity score matching (PSM) approach based on a selection model intended to capture managerial incentives in giving long-term earnings guidance. For pair-matching we first require control firms to be from the same year and industry as the LTG firms, and then choose the firm with the closest total assets. This matching procedure allows us to maximize the number of event firms that get retained in our sample, and mitigates the concern that we are comparing apples to oranges, since firms of different sizes and firms in different industries can be quite different in their investment opportunities and earnings management behavior. The propensity-score matching procedure seeks to match LTG firms with non-LTG firms on a larger set of covariates that can affect the long-term guidance issuance decision, though the tradeoff is it is harder to achieve a good match on every dimension. These two matching procedures complement each other and provide triangulation to our findings.

4. Research Design and Empirical Results

4.1 Distinguishing characteristics of firms that issue long-term guidance

To examine managers' incentives in issuing long-term earnings guidance, we review the voluntary disclosure literature to identify factors that are associated with managerial earnings guidance in general, and we glean insights from the source documents on factors that might be associated with the issuance of long-term earnings guidance in particular.

We identify the following factors that can be associated with the issuance of long-term guidance: 1) firm performance, 2) investor demand, 3) uncertainty in operating environment, and 4) other factors. We estimate the following probit model:

$$Prob(LTG=1)_{it} = \alpha_0 + \alpha_1 RET_{it-1} + \alpha_2 ROA_{it-1} + \alpha_3 \log(NLTAF)_{it-1} + \alpha_4 \log(NAF)_{it-1} + \alpha_5 CHURN_{it-1} + \alpha_6 RVOL_{it-1} + \alpha_7 DIV_{it-1} + \alpha_8 BTM_{it-1} + \alpha_9 \log(MV)_{it-1} + \Sigma \text{ IND/YR FE} + \varepsilon_{it} \quad (1)$$

Prior research documents that firms with better performance are more likely to issue short-term earnings guidance (Miller 2002). In our setting it is also possible that firms issue longer term earnings guidance to divert attention away from recent poor performance, as is shown in their declining earnings growth rate over time (Table 1). Thus we can observe either a positive or a negative coefficient on the two performance proxies, past-year's market-adjusted buy and hold return *RET* and accounting performance measure *ROA*. Firms giving LTGs might face greater demand for information from long-term investors (proxied by the number of long-term analyst forecasts per IBES, *NLTAF*, and the average turnover rate of institutional investors, *CHURN*).[9] We expect a positive coefficient on *log(NLTAF)* and a negative coefficient on *CHURN*. We also include the number of analysts following the firm *log(NAF)* to further capture analyst demand. Firms with more volatile operations might have earnings that are harder to predict for the long-term. We use past year's daily return volatility (*RVOL*) to capture uncertainty and expect a negative coefficient. Finally, our review of the source documents of long-term earnings guidance reveals that many of these firms discuss dividend issuance, thus we

---

[9] *CHURN* measures the average turnover rate of institutional investors and captures investment horizon, following Gaspar, Massa, and Matos (2005). Higher *CHURN* rate indicates shorter investment horizon.

use an indicator variable for dividend issuance (*DIV*) to capture this and expect a positive coefficient. We also include book-to-market ratio (*BTM*) and firm size (*log(MV)*) as additional controls. Finally, we include industry and year fixed effects to control for industry clustering and potential macro-economic events that differ across years. We provide detailed definitions of all proxies in Appendix A.

In Panel A of Table 2 we report univariate statistics comparing 800 LTG firm-year observations to the control sample pool of 5,493 firm-year observations from firms that are regular guiders. The median LTG firms have higher past *RET* and *ROA*, a greater number of analyst following (*NAF,* 17 vs. 10), more analysts long-term EPS forecasts (*NLTAF,* 4 vs. 2), and a greater proportion of analysts issuing long-term EPS forecasts (83% versus 77%). These firms' investors have longer holding horizon as shown in the lower share turnover rate (*CHURN*). At the bottom of the Panel we further dissect investor ownership into transient (*INST_T*), quasi-indexer (*INST_Q*), and dedicated (*INST_D*) ownership using the Bushee (1998) classification. LTG firms have more dedicated investor and quasi-indexer ownership and less transient investor ownership, consistent with the univariate evidence on *CHURN*.[10] Lastly, consistent with our conjecture LTG firms exhibit lower return volatility (*RVOL*) and are more likely to issue dividend to their shareholders (*DIV*). These firms are also significantly larger than control firms with higher market capitalization (*MV*) and total assets (*AT*).

Panel B of Table 2 presents the probit estimation results. The results are largely consistent with the univariate results in Panel A except that *RET*, *CHURN*, and *DIV* are no longer significant, and the sign on *NAF* becomes negative after controlling for other factors that can

---

[10] In our probit model we use *CHURN* in place of the three categories of institutional holdings due to concerns about data attrition. Our results are robust using *INST_T*, *INST_Q*, and *INST_D* in place of *CHURN*.

affect long-term earnings guidance issuance. We note that *NAF* is highly correlated with the size

proxy *MV* (Spearman correlation coefficient = 0.544).

Panel C presents the comparison of matching variables after drawing a one-on-one match

using propensity scores generated from equation (1). We employ nearest neighbor matching and

drop observations with propensity scores outside the common support to ensure high quality

matching (Smith and Todd 2005). As a result, we have 750 firm-year observations for the event

and control samples each. The matching is effective with the exception of *NLTAF*, *CHURN*, and

MV. This imperfect matching is the result of trading off matching with the inclusion of more

covariates.

4.2 Do long-term guidance firms exhibit differential investment behavior?

To investigate the impact of long-term earnings guidance on managerial myopia, we first

compare the investment levels and investment sensitivity of LTG firms with the two matched

control samples. Asker et al. (2015) develop a model that shows that short-termism pressures

induce public firm managers to both invest less and invest in a way that is less sensitive to

investment opportunities. Following Asker et al. (2015) and Kraft et al. (2016), we estimate the

following regressions:

$$INVESTMENT_{it} = \beta_0 + \beta_1 LTG_{it-1} + \beta_2 TOBINQ_{it-1} + \beta_3 log(AT)_{it-1} + \beta_4 ROA_{it-1}$$
$$+ \beta_5 CASH_{it-1} + \beta_6 LEV_{it-1} + \Sigma \text{ IND/YR FE} + \varepsilon_{it}. \quad (2a)$$

$$INVESTMENT_{it} = \beta_0 + \beta_1 TOBINQ_{it-1} + \beta_2 TOBINQ_{it-1} \text{ x } LTG_{it-1} + \beta_3 log(AT)_{it-1}$$
$$+ \beta_4 ROA_{it-1} + \beta_5 CASH_{it-1} + \beta_6 LEV_{it-1} + \Sigma \text{ IND/YR FE} + \varepsilon_{it}. \quad (2b)$$

Equation (2a) compares the investment levels of treatment and control firms, after

holding investment opportunity constant. Equation (2b) further examines if treatment firms

exhibit different sensitivity to investment opportunities.

We capture *INVESTMENT* using two measures. Firms can grow their assets by either building new capacity through capital expenditures, or buying another firm's existing assets through mergers and acquisitions or through long-term capital leases. Our first measure is *CAPEX*, the amount of capital expenditure scaled by beginning total assets. Our second measure is change in net fixed assets scaled by the beginning of year total assets (*ΔPPE*). This measure captures growth in investments through direct capital expenditures, and also through fixed assets acquired either through M&A activities or obtaining long-term capital leases. This measure also captures divestments through disposal of fixed assets.[11] Kraft et al. (2016) note that investment in fixed assets can be used to gauge managerial myopia, because reduction in investment in fixed assets boosts short-term earnings by avoiding depreciation and the associated interest costs from debt financing. Further, both survey and large-sample archival evidence shows that managerial myopia can manifest in the form of underinvestment and reduced capital expenditures (Graham et al. 2005, Asker et al. 2015).

Our control variables are motivated by recent and contemporaneous studies modeling firm-level investments (Asker et al. 2015; Kraft et al. 2016). We capture investment opportunity using *TOBINQ*, and estimate it as the predicted values of cross-sectional regressions of Tobin's Q (market value of assets divided by book value of assets) on sales growth, return on assets, book leverage, net income, and year fixed effects. We estimate the above regression for each of the Fama-French 48 industries to obtain *TOBINQ* for each firm year. We control for firm size (*log(AT)*) and firm profitability (*ROA*) as larger firms and more profitable firms potentially have

---

[11] Another measure of input to investment is investment in research and development (R&D) activities. However, recent research by Koh and Reeb (2015) finds significant under-reporting of R&D by many firms and shows that simply treating a missing R&D field as zero R&D is incorrect. The measurement error in R&D as a dependent variable can be correlated with a number of our control variables such as profitability, resulting in inconsistent estimates that are hard to interpret. Thus, we do not use R&D expenditure as an alternative dependent variable.

more funds to invest. In addition, we also control for beginning of the year cash (*CASH*, scaled by assets) and leverage (*LEV*, scaled by assets) as firms with more cash and less leverage are less cash constrained and can more readily respond to investment opportunities.

Proponents of long-term guidance are generally more concerned about shortsighted managers cutting investment in order to meet short-term earnings targets than with over-investment. The univariate comparison in Panel A of Table 3 shows that, at a univariate level, LTG firms exhibit (marginally) higher level of *CAPEX* than the pair-wise matched control firms but significantly lower *ΔPPE* than the PSM matched control firms. The regression results in Panel B yield largely insignificant coefficients with one exception: the coefficient on *ΔPPE* is negative and marginally significant at 10% level after controlling for investment opportunities and other important firm characteristics. Thus, there is no consistent evidence of differential investment levels exhibited by LTG firms. The marginal evidence that LTG firms invest less, not more, than control firms, is contrary to the assumption that long term guidance mitigates managerial under-investment.

Panel C of Table 3 reports the estimation results of equation (2b) on firms' sensitivity to investment opportunities. Our focus is on the interaction variable $TOBINQ_{it-1}$ x LTG_{it-1}. The coefficient is insignificant in three out of four regressions, and significantly negative when using the PSM sample in the *CAPEX* regression. Overall, there is no consistent evidence of differential sensitivity to investment opportunities between LTG firms and control firms. Similar to the results in Panel B, the only significant coefficient points to LTG firms being less, not more, sensitive to investment opportunities.

It is possible that our null results above are contaminated by the subset of long-term earnings guidance firms that are still subject to short-term pressure: if these firms are continuing

to offer more short-term earnings information such as short-term earnings forecasts, it makes it harder for long-term earnings forecasts to change the existing mix of hard versus soft information. Thus, in Panels D and E we perform further analyses on investment level and investment sensitivity on two subsamples: a subsample of LTG firms that are not regular guiders on CIG/IBES (N=697) and a subsample of LTG firms that did not issue quarterly guidance on CIG/IBES (N=182). These two subsamples are arguably subject to less short-term pressure than other LTG firms, and thus are more likely to exhibit differential investment behavior than the control firms. The regression results are largely insignificant, failing again to yield evidence that long-term earnings guidance issuance is associated with higher investment levels or greater sensitivities to investment opportunities.

4.3 Do long-term guidance firms exhibit differential earnings management behavior?

Critics of managerial myopia frequently argue that regular short-term earnings guidance adds pressure on managers to meet or beat short-term earnings targets. To investigate whether the issuance of long-term earnings guidance is associated with differential earnings management behavior, we estimate the following regression:

$$NSMB_{it} = \alpha_0 + \beta_1 LTG_{it-1} + \beta_2 LEV_{it-1} + \beta_3 BTM_{it-1} + \beta_4 OPCYCLE_{it-1} + \beta_5 CAPINT_{it-1} + \beta_6 ROA_{it-1} + \beta_7 log(MV)_{it-1} + \beta_8 INST_{it-1} + \beta_9 \sigma(CFO)_{it-1} + \beta_{10} \sigma(EARN)_{it-1} + \Sigma IND + \Sigma YEAR + \varepsilon_{it}. \qquad (3)$$

Where *NSMB* (acronym for "number of small meet or beat") is the frequency of the firm to meet or just beat quarterly earnings targets, measured as the number of quarters within year *t* where actual EPS less analyst consensus EPS falls between zero and one cent. The independent variables are firm characteristics that have been shown to be associated with firms' tendency to manage earnings in prior literature (see detailed discussion in Call et al. 2014).[12] All variables

---

[12] Because the earnings management literature is well developed, for parsimony we refer readers interested in more details to careful discussions in Dechow, Ge, and Shrand (2010).

are defined in Appendix A. If long-term earnings guidance issuance mitigates subsequent

earnings management, we would expect to see a negative coefficient on *LTG*.

The results are presented in Table 4. The univariate comparison in Panel A of Table 4

largely fails to show a difference in the frequency of meeting or just beating short-term earnings

targets between the LTG firms and the control firms. The regression results in Panel B yield

insignificant coefficients on LTG. The subsample analyses in Panel C show that LTG firms

subject to less short-term pressure indeed exhibit a lower frequency of meeting or just beating

consensus forecasts than size- and industry-matched control firms, though there is no difference

when compared to propensity score matched control firms.

We also examine accruals and real earnings management using three accruals earnings

management measures and three real earnings management measures following the earnings

management literature (Jones 1991; Dechow-Dichev 2002; Ball and Shivakumar 2006; Stubben

2006; Roychowdury 2006). The results, presented in an online Appendix accompanying this

paper, fail to find differential accruals or real earnings management behavior of LTG firms.

Thus, taken together, we do not find evidence of a systematic difference between LTG

and control firms in the extent of earnings management behavior following the issuance of LTG.

4.4. Do investors react differentially to short-term earnings and guidance news for LTG firms?

Short-termism is said to plague all parties in the U.S. investment community, including

investment managers, companies, and investors. The typical narrative is that investors demand

short-term results, forcing firms to focus on quarterly results and managers to cut investments

and manage earnings in order to meet or beat short-term earnings targets. In this section, we

investigate whether the issuance of long-term earnings guidance is associated with less investor

focus on short-term earnings surprises and short-term earnings guidance. This investigation also

allows us to infer whether the information offered to the market has changed.

We estimate the following two regressions:

$$CAR\_EAD_{it} = \alpha + \beta_1 LTG_{it} + \beta_2 SUE_{it} + \beta_3 SMB + \beta_4\ LTG_{it} \times SUE_{it} + \beta_5\ LTG_{it} \times SMB_{it}$$
$$+ \Sigma \text{ Industry Fixed Effects} + \Sigma \text{ Year Fixed Effects} + \varepsilon_{it} \qquad (4a)$$

$$CAR\_MF_{it} = \alpha + \beta_1 LTG_{it} + \beta_2\ SUMF_{it} + \beta_3 LTG_{it} \times SUMF_{it}$$
$$+ \Sigma \text{ Industry Fixed Effects} + \Sigma \text{ Year Fixed Effects} + \varepsilon_{it,} \qquad (4b)$$

The first regression (equation 4a) tests investor reaction to quarterly earnings

announcements after the issuance of LTG. *CAR_EAD* is the three-day size-adjusted returns

centered on the earnings announcement date. For LTG=1 firms, we include only quarterly

earnings announcements in year *t* after the issuance of the first LTG within the year. For LTG=0

firms, we include all four quarterly earnings announcement for year *t*. We measure quarterly

earnings surprise using two variables – unexpected earnings scaled by beginning price (*SUE*),

and an indicator variable *SMB* (acronym for "small meet or beat") coded as one if actual EPS

minus forecasted EPS falls into the [0, 1 cent] interval. If investors react less to short-term

earnings surprise of LTG firms, then β_4 and β_5 would be significantly negative.

The results of estimating equation (4a) are reported in Panel A of Table 5. The

coefficients on *SUE* are significantly positive in all model specifications, but none of the

coefficients on the interaction variables is significant.

The second regression (equation 4b) regresses the three-day size adjusted returns on the

announcement of short-term managerial earnings guidance on *LTG* and *SUMF*, price-deflated

management EPS forecast surprise. Recall short-term guidance includes management forecasts

of quarterly or annual EPS that are issued within 90 days of the fiscal period end. To isolate the

market reaction to short-term guidance from other information, we include in our sample only

standalone guidance that are not bundled with quarterly earnings announcements. Similar to

equation (4a), for LTG=1 firms, we include only short-term guidance in year *t* after the issuance

of the first LTG within the year. And for LTG=0 firms we include all short-term guidance issued

in year *t*. If investors react differentially to short-term earnings news after the issuance of long-

term earnings guidance, we would expect either significantly positive or negative coefficients on

the interaction variables.

The results of estimating equation (4b) are reported in Panel B of Table 5. The market

reaction to short-term guidance surprise is significantly positive, but the coefficients on the

interaction variables are not significant. Taken together, there is no evidence that investor react

differently to short-term earnings news or guidance surprise after the issuance of long-term

earnings guidance. This points to the possibility that the release of long-term earnings guidance

does not change the information available to the market.

4.5   Additional analysis

Our primary analyses compare measures of investment and earnings management of the

LTG firms to those of the matched control firms following the issuance of long-term earnings

guidance. While such a design preserves sample observations, it may not adequately account for

any pre-existing levels of myopia between LTG firms and matched control firms. Thus, we can

be erroneously inferring a null result when in fact the LTG firms have either increasing or

decreasing levels of myopia but they are moving closer to control firms.

To mitigate this concern, we further conduct a difference-in-difference test by identifying

a sample of firms that initiated long-term earnings guidance in our sampling period. We define a

LTG initiation as the first LTG in a five-year window, and over the sampling period of 2000 to

2012 we find 313 such observations. We repeat the analyses in equations (2a) through (4b) by

defining an indicator variable *POST*, coded as one for the year of and the three years following

LTG initiation and zero for the three years preceding the LTG initiation. We interact the *POST*

indicator with *LTG* indicator. If LTG firms behave differently in investments or earnings management following LTG initiation, or if investors react differently in responding to short-term earnings news following LTG initiation, we should observe significant coefficients on the interaction variables. We report the estimation results in Table 6 (investment tests), Table 7 (earnings management tests), and Table 8 (investor reaction tests). None of the coefficients on the interaction variables are significant, with the following exception: in Table 6 the coefficients on the interaction variables using the PSM control sample are significantly negative (Panel A, firm-clustered t-statistics = -1.71 with *ΔPPE* as the dependent variable; Panel B, firm-clustered t-statistics=-2.50 with *CAPEX* as the dependent variable). Note though these negative coefficients suggest firms are further cutting investment level or investment sensitivity, inconsistent with the implication of reduced managerial myopia. Untabulated analyses further restricting the initiation sample to 289 "first-time" initiations in our sampling period yield qualitatively the same results. Thus, the DiD test results are consistent with all other estimation results.

5. Conclusion

In recent years, public policy think tanks, investor and industry organizations have criticized corporate executives for having an excessive focus on short-term performance to the detriment of long-term value creation (CFA Institute, 2006; The Aspen Institute, 2007; Committee for Economic Development, 2007; U.S. Chamber of Commerce, 2007). To mitigate managerial and investor short-termism, these organizations frequently encourage managers to issue long-term guidance, based on the yet untested assumption that long-term guidance mitigates managerial myopia and shifts investor focus to the long-term.

We empirically test this assumption by examining the efficacy of long-term earnings guidance, managerial guidance for earnings for three to five years ahead, in mitigating under-

investment and earnings management. We also examine whether investors react differently to short-term earnings and forecast news in the presence of long-term earnings guidance.

We compare a hand-collected sample of 895 firm-year observations consisting of 289 unique firms issuing 1,709 long-term earnings forecasts from 2000 to 2012 with matched control samples of firms that regularly issue short-term earnings guidance. We find no evidence that long-term guidance firms exhibit different investment level or different sensitivity to investment opportunities. Nor is there evidence of a differential tendency to meet or just beat earnings targets. In supplemental analysis we also fail to find evidence of differential accruals or real earnings management for these firms when compared to control firms. Furthermore, we do not find evidence that investors react differently to short-term earnings and guidance news after the issuance of long-term earnings guidance. This last result also allows us to infer that the information offered to the market has not changed.

This null evidence is consistent with the theoretical insight that, for disclosure to affect myopia, it needs to change the mix of "hard" information such as earnings versus "soft", unverifiable information firms disclose to the market (Edmans et al. 2016). Long-term earnings guidance does not appear to change this mix.

Our paper is timely in informing the current debate calling for ways to curb short-termism. Our evidence indicates that changing disclosure horizon alone is unlikely to change manager or investor focus on short-term results. This has practical implications for both critics calling for long-term guidance and managers under pressure to issue long-term guidance. Our evidence also adds to the growing literature that examines the role of various aspects of financial reporting and disclosure properties on managerial myopia (Gigler et al. 2014; Edmans et al. 2016; Kraft et al. 2016).

References:

Aghion, Philippe, John Van Reenen and Luigi Zingales. 2013. "Innovation and Institutional Ownership." American Economic Review, 103(1): 277-304.

Asker, J., J. Farre-Mensa, and A. Ljungqvist. 2015. Corporate investment and stock market listing: A puzzle? *Review of Financial Studies* 28 (2): 342-390.

Ball, R., and L. Shivakumar. 2006. The role of accruals in asymmetrically timely gain and loss recognition. *Journal of Accounting Research* 44 (2): 207-242.

Bebchuk, L., and L. Stole. 1993. Do short-term objectives lead to under- or over-investment in long-term projects? *Journal of Finance* 48 (2): 719-730.

Beyer, A., D. Cohen, T. Lys, and B. Walther. 2010. The financial reporting environment: A review of recent literature. *Journal of Accounting & Economics* 50: 296-343.

Bond, P., A. Edmans, and I. Goldstein. 2012. The real effects of financial markets. *Annual Review of Financial Economics* 4 (1): 339-360.

Buffett, W. 2000. Berkshire Hathaway Inc. 2000 Annual Report. Available at http://www.berkshirehathaway.com/2000ar/2000ar.pdf.

Bushee, B. 1998. The influence of institutional investors on myopic R&D investments behavior. The *Accounting Review*. 305-333.

Call, A., S. Chen, B. Miao, and Y. Tong. 2014. Short-term earnings guidance and accrual-based earnings management. *Review of Accounting Studies* 19 (2):955-987.

Chen, S., D. Matsumoto, and S. Rajgopal. 2011. Is silence golden? An empirical analysis of firms that stop giving quarterly earnings guidance. *Journal of Accounting & Economics* 51: 134-150.

CFA Institute. 2006. Breaking the short-term cycle: discussion and recommendations on how corporate leaders, asset managers, investors, and analysts can refocus on long-term value. CFA Institute, Business Institute Roundtable for Corporate Ethics. Available at http://www.corporate-ethics.org/pdf/Short-termism_Report.pdf

Committee for Economic Development. 2007. Built to last: Focusing corporations on long-term performance. Available at https://www.ced.org/reports/single/built-to-last-focusing-corporations-on-long-term-performance.

Dechow, P., and I. Dichev. 2002. The quality of accruals and earnings: The role of accrual estimation errors. *The Accounting Review* 77: 35-39.

Dechow, P., W. Ge, and C. Shrand. 2010. Understanding earnings quality: a review of the proxies, their determinants and their consequences. *Journal of Accounting & Economics* 50: 344-401.

Edmans, A., M. Heinle, and C. Huang. 2016. The real costs of financial efficiency when some information is soft. Working paper.

Edmans, A., V. Fang, and K. Lewellen. 2015. Equity investing and managerial myopia. Working paper.

Fama, E. F., and K. R. French. 1997. Industry costs of equity. *Journal of Financial Economics* 43 (2):153-193.

Fu, R., A. Kraft, and H. Zhang (2012). Financial reporting frequency, information asymmetry, and the cost of capital. *Journal of Accounting and Economics* 54 (2): 132-149.

Fuller, J., and M. Jensen. 2010. Just Say No to Wall Street: Putting a Stop to the Earnings Game. *Journal of Applied Corporate Finance* 22 (1): 59-63.

Gigler, F., C. Kanodia, H. Sapra, and R. Venugopalan. 2014. How frequent financial reporting can cause managerial short-termism: An analysis of the costs and benefits of increasing reporting frequency. *Journal of Accounting Research* 52 (2): 357-387.

Gaspar, J.M., M. Massa, and P. Matos. 2005. Shareholder investment horizons and the market for corporate control. *Journal of Financial Economics* 76: 135-165.

Graham, J.G., C.R. Harvey, and S. Rajgopal. 2005. The economic implications of corporate financial reporting. *Journal of Accounting and Economics* 40 (1-3): 3-73.

Houston, J., B. Lev, and J. Tucker. 2010. To guide or not to guide? Causes and consequences of stopping and subsequently resuming earnings guidance. *Contemporary Accounting Research* 27 (1): 143–18.

Huang, S., J. Ng, S. Roychowdury, and E. Sletten. 2016. Increased creditor rights, institutional investors and corporate myopia. Singapore Management University and Boston College, working paper.

Janjigian, V. 2003. In defense of earnings guidance. Forbes.com, February 20, 2003. Available at http://www.forbes.com/2003/02/20/cz_vj_0220soapbox.html.

Jones, J. 1991. Earnings Management During Import Relief Investigations. *Journal of Accounting Research* 29 (2): 193-228.

Karageorgiou, G., and Serafeim, G. 2014. Earnings Guidance—Part of the Future or the Past? The Generation Foundation. Available at: http://genfound.org/media/pdf-earnings-guidance-kks-30-01-14.pdf.

Koh, P., and D. Reeb. 2015. Missing R&D. *Journal of Accounting and Economics* 60 (1): 73-94.

Kraft, A., R. Vashishtha, M. Venkatachalam. 2016. Frequent financial reporting and managerial myopia. Duke University, working paper.

McKinsey & Company. 2006. The misguided practice of earnings guidance. Available at http://www.mckinsey.com/insights/corporate_finance/the_misguided_practice_of_earnings_guidance.

Miller, G. 2002. Earnings Performance and Discretionary Disclosure. *Journal of Accounting Research* 40 (1): 173-204.

Roychowdhury, S. 2006. Earnings management through real activities manipulation. *Journal of Accounting and Economics* 42 (3): 335-370.

Schumpter, J. 2014. The tyranny of the long term: Let's not get carried away in bashing short-termism. *The Economist*, November 22, 2014.

Smith, J., and P. Todd. 2005. Does matching overcome LaLonde's critique of nonexperimental estimators? *Journal of Econometrics*, 125 (1): 305-353.

Stein, J. C. 1989. Efficient capital markets, inefficient firms: A model of myopic corporate behavior. *The Quarterly Journal of Economics*: 655-669.

Stubben, S. 2006. The use of discretionary revenues to meet earnings and revenue targets. Doctoral dissertation, Stanford University.

The Aspen Institute. 2007. Long-term value creation: Guiding principles for corporations and investors. Available at http://www.aspeninstitute.org/publications/aspen-principles-long-term-value-creation-guiding-principles-corporations-investors.

Thomson Reuters. October 2009. A guide to understanding Thomson Reuters methodologies, terms and policies for the First Call and I/B/E/S Estimates databases.

U.S. Chamber of Commerce. 2007. Commission on the regulation of U.S. capital markets in the 21st century: Report and recommendations. Available at http://www.centerforcapitalmarkets.com/wp-content/uploads/2014/06/Commission-on-the-regulation-of-us-cap-markets-report-and-recommendations.pdf.

Table 1
Descriptive Statistics of Long-Term Earnings Guidance Sample

This table reports descriptive statistics on the venue, distribution by time, forecast format, and industry, and the *ex-ante* and *ex-post* optimism of forecasted growth compared to actual realized growth of the 1,709 long-term earnings guidance (LTG) issued between 2000 and 2012. *Ex-ante* optimism is defined as the forecasted growth rate in LTG minus the actual rate of growth in the past three years before the issuance of long-term guidance. *Ex-post* optimism is defined as the forecasted growth rate minus actual realized growth rate in the three years after the issuance of long-term guidance.

Panel A Venue of Long-Term Earnings Guidance Announcement

Venue	Number	%
Conference Call Presentation	661	38.68%
Conference Call Q&A	84	4.92%
Earnings Announcement	158	9.25%
Investor Conference	309	18.08%
Annual Report	2	0.12%
Financial Press	495	28.96%
Total	1,709	100.00%

Table 1
Descriptive Statistics of Long-Term Earnings Guidance Sample (continued)

Panel B Characteristics of Long-Term Guidance by Calendar Year/Quarter

Year	# of LTG	Unique Firm Issuing LTG	Point guidance	Range Guidance	Numeric Range guidance	Non-numeric Range guidance	LTG issued w/ Other Guidance
2000	58	40	28	30	22	8	20
2001	84	59	37	47	34	13	24
2002	132	83	38	94	68	26	57
2003	132	75	54	78	47	31	60
2004	170	91	69	101	66	35	93
2005	149	84	52	97	65	32	81
2006	153	81	54	99	73	26	79
2007	177	86	54	123	87	36	90
2008	155	80	58	97	71	26	94
2009	97	58	28	69	54	15	47
2010	108	59	17	91	76	15	66
2011	160	69	52	108	83	25	95
2012	134	69	25	109	80	29	88
All	1,709	289	566	1,143	826	317	894

Quarter							
1	493	200	176	317	225	92	248
2	414	179	134	280	207	73	198
3	361	170	123	238	177	61	202
4	441	184	133	308	217	91	246

Panel C Distribution by Fama-French 12 Industry

Industry	Business Equipment	Chemicals	Consumer Durables	Health	Manufacturing	Finance	Consumer Non-Durables	Shops	Telecom	Utilities	Other
# of LTG	83	94	41	142	79	210	274	334	12	330	110
# of Firm Issuing LTG	18	16	8	37	23	46	30	51	4	38	18

Panel D Long-Term Guidance and Actual EPS Growth Rates

	N	Mean	Std Dev	Min	Quartile 1	Median	Quartile 3	Max
Guidance Growth Rate	1,304	0.124	0.057	0.009	0.085	0.120	0.150	0.700
Ex-ante Optimism (guidance rate – past rate *t-3* to *t-1*)	1,102	-0.020	0.342	-6.671	-0.088	-0.008	0.093	0.968
Ex-post Optimism (guidance rate – growth rate *t+1* to *t+3)*	1,004	0.051	-0.281	0.831	0.151	0.041	-0.034	-2.511

Table 2
Determinants of Long-Term Earnings Guidance

This table reports summary statistics of variables that differentiate LTG firms from other regular quarterly guidance firms on the CIG/IBES guidance database. Panel A reports mean and median statistics and tests of difference comparing LTG firms to other regular guidance issuance firms. Panel B reports the results of probit estimation of equation (1) $Prob(LTG=1)_{it} = \alpha_0 + \alpha_1 RET_{it-1} + \alpha_2 ROA_{it-1} + \alpha_3 log(NLTAF)_{it-1} + \alpha_4 log(NAF)_{it-1} + \alpha_5 CHURN_{it-1} + \alpha_6 RVOL_{it-1} + \alpha_7 DIV_{it-1} + \alpha_8 BTM_{it-1} + \alpha_9 log(MV)_{it-1} + \Sigma$ IND/YR FE $+ \varepsilon_{it}$. Panel C reports statistics on the effectiveness of the variables used to generate propensity score-matched control samples. ***, **, and * indicate significance levels at 1%, 5%, and 10%, respectively. Industry fixed effect is defined using Fama-French 12-industry classification. See the Appendix A for definitions of all variables.

Panel A: Descriptive statistics

	LTG = 1 (N = 800)		LTG = 0 (N = 5,493)			Tests of difference: 1 – 0	
	Mean	Median	Mean	Median	Pred. Sign of Diff.	Mean	Median
RET	0.103	0.055	0.163	0.027	+/−	-0.061***	0.028**
ROA	0.170	0.155	0.155	0.147	+/−	0.014***	0.008***
NLTAF	4.773	4.000	3.305	2.000	+	1.468***	2.000***
%NLTAF	0.831	1.000	0.765	1.000	+	0.066***	0.000***
NAF	16.236	17.000	12.022	10.000	+	4.214***	7.000***
CHURN	0.277	0.268	0.316	0.304	−	-0.039***	-0.036***
RVOL	0.020	0.018	0.031	0.028	−	-0.011***	-0.010***
DIV	0.690	1.000	0.287	0.000	+	0.403***	1.000***
BTM	0.415	0.360	0.542	0.425		-0.127***	-0.065***
MV (billions)	18.801	7.531	5.362	0.994		13.439***	6.537***
AT(billions)	26.730	7.931	4.441	0.783		22.289***	7.148***
INST_T	0.166	0.138	0.202	0.178	−	-0.036***	-0.040***
INST_Q	0.453	0.457	0.445	0.444	+/−	0.008	0.013
INST_D	0.048	0.020	0.048	0.004	+	-0.000	0.016***

Table 2
Determinants of Long-Term Earnings Guidance (continued)

Panel B: Probit regression for equations (1)

Predictors	Predicted Sign	Coeff.	(t-statistics)
Intercept		-0.812***	(-2.73)
RET	+/−	0.009	(0.17)
ROA	+/−	-0.591**	(-2.15)
Log(NLTAF)	+	0.170***	(3.36)
Log(NAF)	+	-0.098***	(-2.59)
CHURN	−	-0.680	(-1.55)
RVOL	−	-11.033***	(-3.83)
DIV	+	0.080	(1.28)
BTM		-0.087	(-0.92)
Log(MV)		0.297***	(13.89)
Industry/Year FE		Yes	
NOBS (Event = 1 / 0)		800 / 5,493	
McFadden R^2		0.366	

Panel C: Comparison of matching variables after propensity score matching

	LTG = 1 (N = 750)		LTG = 0 (N = 750)		Tests of difference: 1 − 0		
	Mean	Median	Mean	Median	Pred. Sign of Diff.	Mean	Median
RET	0.102	0.048	0.131	0.079	+/−	-0.029	-0.031**
ROA	0.174	0.163	0.177	0.162	+/−	-0.003	0.002
NLTAF	4.753	4.000	5.135	4.000	+	-0.381*	0.000*
%NLTAF	0.831	1.000	0.861	1.000		-0.031	0.000
NAF	16.157	17.000	17.020	17.000	+	-0.863	0.000
CHURN	0.280	0.270	0.286	0.280	−	-0.007**	-0.011***
RVOL	0.020	0.018	0.021	0.019	−	-0.001	-0.001***
DIV	0.676	1.000	0.664	1.000	+	0.012	0.000
BTM	0.405	0.346	0.389	0.332		0.016	0.014
MV (billions)	18.776	6.648	32.618	5.827		-13.842***	0.821

Table 3 Long-Term Earnings Guidance and Firm Investment

This table reports summary statistics of investment variables on *CAPEX* and *ΔPPE* and regression analyses comparing the investment level (equation 2a) and investment sensitivity (equation 2b) of LTG firms to two matched control firms. Panel A reports mean and median statistics on *CAPEX* and *ΔPPE* and tests of difference comparing LTG firms to the two matched control samples. Panel B reports the results of OLS estimation of equation (2a) $INVESTMENT_{it} = \beta_0 + \beta_1 LTG_{it-1} + \beta_2 TOBINQ_{it-1} + \beta_3 log(AT)_{it-1} + \beta_4 ROA_{it-1} + \beta_5 CASH_{it-1} + \beta_6 LEV_{it-1} + \Sigma$ IND/YR FE $+ \varepsilon_{it}$. Panel C reports the results of OLS estimation of equation (2b) $INVESTMENT_{it} = \beta_0 + \beta_1 LTG_{it-1} + \beta_2 TOBINQ_{it-1} + \beta_3 TOBINQ_{it-1} \times LTG_{it-1} + \beta_4 log(AT)_{it-1} + \beta_5 ROA_{it-1} + \beta_6 CASH_{it-1} + \beta_7 LEV_{it-1} + \Sigma$ IND/YR FE $+ \varepsilon_{it}$. ***, **, and * indicate significance levels at 1%, 5%, and 10%, respectively. Industry fixed effect is defined using Fama-French 12-industry classification. Firm-clustered t-statistics are reported in parentheses. See the Appendix A for definitions of all variables.

Panel A: Univariate comparisons

Size/Industry Matched	N	LTG = 1 Mean	Median	N	LTG = 0 Mean	Median	Difference (1-0) Mean	Median
CAPEX	766	0.052	0.039	760	0.048	0.041	0.004*	-0.003
ΔPPE	773	0.018	0.006	762	0.022	0.005	-0.004	0.001

PSM	N	LTG = 1 Mean	Median	N	LTG = 0 Mean	Median	Difference (1-0) Mean	Median
CAPEX	735	0.052	0.041	729	0.052	0.044	0.000	-0.003
ΔPPE	731	0.019	0.007	731	0.028	0.010	-0.009***	-0.003

Panel B: Regression Analysis – Investment Level (equation 2a)

	Size/Industry Matched Sample		PSM Sample	
	CAPEX	*ΔPPE*	*CAPEX*	*ΔPPE*
Intercept	7.486***	7.667***	6.522***	6.844***
	(5.14)	(2.95)	(5.53)	(3.89)
LTG	0.047	-0.446	0.119	-0.759*
	(0.16)	(-1.19)	(0.37)	(-1.71)
TOBINQ	-0.078	-0.011	0.296*	0.435*
	(-0.63)	(-0.07)	(1.74)	(1.89)
Log(AT)	-0.246**	-0.325***	-0.144	-0.136
	(-2.18)	(-2.70)	(-1.32)	(-1.23)
ROA	15.549***	9.245***	15.558***	8.768***
	(7.28)	(3.89)	(7.99)	(4.74)
CASH	-1.794	0.413	-2.617**	-1.686
	(-1.57)	(0.28)	(-2.34)	(-1.38)
LEV	-0.463	-1.45	0.422	-1.607
	(-0.37)	(-0.92)	(0.41)	(-0.95)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	1,526	1,535	1,464	1,462
Adj-R^2	0.415	0.111	0.427	0.192

Table 3 Long-Term Earnings Guidance and Firm Investment (continued)

Panel C: Regression Analysis - Sensitivity to Investment Opportunities (equation 2b)

	Size/Industry Matched Sample		PSM Sample	
	CAPEX	ΔPPE	CAPEX	ΔPPE
Intercept	7.383***	7.741***	6.184***	6.67***
	(5.12)	(2.97)	(5.40)	(3.50)
LTG	0.260	-0.611	1.014**	-0.299
	(0.61)	(-1.03)	(2.12)	(-0.36)
TOBINQ	-0.008	-0.065	0.604***	0.594*
	(-0.07)	(-0.35)	(2.68)	(1.77)
TOBINQ*LTG	-0.149	0.116	-0.634**	-0.327
	(-0.66)	(0.43)	(-2.33)	(-0.77)
Log(AT)	-0.241**	-0.328***	-0.143	-0.136
	(-2.14)	(-2.69)	(-1.38)	(-1.24)
ROA	15.51***	9.274***	15.476***	8.726***
	(7.3)	(3.87)	(8.17)	(4.75)
CASH	-1.839	0.448	-2.668**	-1.711
	(-1.58)	(0.3)	(-2.35)	(-1.38)
LEV	-0.478	-1.437	0.38	-1.629
	(-0.38)	(-0.91)	(0.38)	(-0.97)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	1,526	1,535	1,464	1,462
Adj-R^2	0.416	0.111	0.432	0.193

Table 3 Long-Term Earnings Guidance and Firm Investment (continued)

Panel D: Subsample analysis – investment levels (equation 2a)

	LTG Issuers that are not regular guiders (N =697 for LTG=1)				LTG Issuers that did not issue short-term guidance (N=182 for LTG=1)			
	Size/Industry Matched Sample		PSM Sample		Size/Industry Matched Sample		PSM Sample	
	CAPEX	ΔPPE	CAPEX	ΔPPE	CAPEX	ΔPPE	CAPEX	ΔPPE
LTG	-0.068	-0.282	-0.112	-0.892*	-0.266	-0.298	-0.246	-0.341
	(-0.24)	(-0.78)	(-0.32)	(-1.70)	(-0.64)	(-0.60)	(-0.48)	(-0.45)
Control Variables & Industry/Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1,176	1,185	1,121	1,119	333	334	296	292
Adj-R^2	0.422	0.109	0.425	0.190	0.482	0.136	0.420	0.265

Panel E: Subsample analysis – investment sensitivity(equation 2b)

	LTG Issuers that are not regular guiders (N =697 for LTG=1)				LTG Issuers that did not issue short-term guidance (N=182 for LTG=1)			
	Size/Industry Matched Sample		PSM Sample		Size/Industry Matched Sample		PSM Sample	
	CAPEX	ΔPPE	CAPEX	ΔPPE	CAPEX	ΔPPE	CAPEX	ΔPPE
TOBINQ*LTG	-0.179	0.105	-0.759***	-0.522	-0.275	0.213	-0.693	-0.869
	(-0.82)	(0.39	(-2.58)	(-1.06)	(-0.85)	(0.37)	(-1.36)	(-1.07)
Control Variables & Industry/Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1,176	1,185	1,121	1,119	333	334	296	292
Adj-R^2	0.422	0.109	0.433	0.191	0.483	0.136	0.425	0.270

Table 4
Long-Term Earnings Guidance and the Tendency to Just Meet or Beat Quarterly Earnings

This table reports univariate and OLS regression results comparing the frequency of just meeting or beating analyst consensus forecasts (*NSMB*) between LTG firms and two control samples. Panel A reports mean and median statistics and tests of difference, and Panel B reports the OLS cross-sectional estimation results of equation (3): $NSMB_{it} = \alpha_0 + \beta_1 LTG_{it-1} + \beta_2 LEV_{it-1} + \beta_3 BTM_{it-1} + \beta_4 OPCYCLE_{it-1} + \beta_5 CAPINT_{it-1} + \beta_6 ROA_{it-1} + \beta_7 log(MV)_{it-1} + \beta_8 INST_{it-1} + \beta_9 \sigma(CFO)_{it-1} + \beta_{10} \sigma(EARN)_{it-1} + \Sigma IND + \Sigma YEAR + \varepsilon_{it}$. ***, **, and * indicate significance levels at 1%, 5%, and 10%, respectively. Firm-clustered t-statistics are reported in parentheses. Industry fixed effect is defined using Fama-French 12-industry classification. See the Appendix A for definitions of all variables.

Panel A: Univariate comparisons

Size/Industry Matched	LTG = 1 (N=579)		LTG = 0 (N=605)		Difference (1- 0)	
	Mean	Median	Mean	Median	Mean	Median
NSMB	1.209	1.000	1.278	1.000	-0.069	0.000

PSM	LTG = 1 (N=600)		LTG = 0 (N=610)		Difference (1 - 0)	
	Mean	Median	Mean	Median	Mean	Median
NSMB	1.202	1.000	1.290	1.000	-0.089***	0.000

Panel B: Cross-sectional regressions for equation (3)

	Size/Industry Matched Sample	*PSM Sample*
Intercept	1.098	27.178
	(1.51)	(0.39)
LTG	-0.132	-0.417
	(-1.37)	(-0.04)
LEV	-1.022***	-102.156***
	(-2.95)	(-2.93)
BTM	-0.168	-25.938*
	(-1.27)	(-1.69)
OPCYCLE	-0.024	-5.841
	(-0.23)	(-0.86)
CAPINT	-0.017	-13.683
	(-0.05)	(-0.44)
ROA	1.381**	146.841**
	(2.06)	(2.13)
Log(MV)	-0.005	8.773**
	(-0.13)	(2.1)
INST	-0.390	8.95
	(-1.26)	(0.27)
σ(CFO)	-3.165	-252.524
	(-1.52)	(-1.07)
σ(EARN)	1.093	-139.907
	(0.96)	(-0.67)
IND & YR Fixed Effects	Yes	Yes
N	1,184	1,210
Adj-R^2	0.186	0.232

Table 4
Long-Term Earnings Guidance and the Tendency to Just Meet or Beat Quarterly Earnings
(continued)

Panel C: Subsample analyses(equation 3)

	LTG Issuers that are not regular guiders (N =697 for LTG=1)		LTG Issuers that did not issue short-term guidance (N=182 for LTG=1)	
	Size/Industry Matched Sample	*PSM Sample*	*Size/Industry Matched Sample*	*PSM Sample*
LTG	-0.219**	-0.124	-0.307*	-0.173
	(-2.07)	(-1.10)	(-1.83)	(-1.18)
Control Variables & Industry/Year FE	Yes	Yes	Yes	Yes
N	897	913	219	226
Adj-R^2	0.212	0.266	0.336	0.384

Table 5
Investor Reaction to Quarterly Earnings News and Short-Term Earnings Guidance

This table reports the OLS regression results testing market reaction to quarterly earnings news (Panel A) and short-term managerial guidance (Panel B). Panel A presents the OLS regression results of estimating equation (4a): $CAR\_EAD_{it} = \alpha + \beta_1 LTG_{it} + \beta_2 SUE_{it} + \beta_3 SMB + \beta_4\ LTG_{it} \times SUE_{it} + \beta_5 LTG_{it} \times SMB_{it} + \Sigma$ Industry Fixed Effects $+ \Sigma$ Year Fixed Effects $+ \varepsilon_{it}$. Panel B presents the OLS regression results of estimating equation (4b): $CAR\_MF_{it} = \alpha + \beta_1 LTG_{it} + \beta_2\ SUMF_{it} + \beta_3 LTG_{it} \times SUMF_{it} + \Sigma$ Industry Fixed Effects $+ \Sigma$ Year Fixed Effects $+ \varepsilon_{it}$. ***, **, and * indicate significance levels at 1%, 5%, and 10%, respectively. Firm-clustered t-statistics are reported in parentheses. Industry fixed effect is defined using Fama-French 12-industry classification. See the Appendix A for definitions of all variables.

Panel A: Market Reaction to Quarterly Earnings Announcements (equation 4a)

	All observations		Subsample where earnings announcements are bundled with LTG	
	Size/Industry Matched Sample	PSM Sample	Size/Industry Matched Sample	PSM Sample
Intercept	-0.003	-0.018**	-0.005	-0.024**
	(-0.29)	(-2.18)	(-0.43)	(-2.38)
LTG	0.001	0.005	-0.000	0.007
	(0.56)	(1.30)	(-0.09)	(1.44)
SUE	6.258***	11.473***	6.229***	11.677***
	(5.19)	(4.47)	(5.15)	(4.49)
SMB	0.001	-0.002	0.002	-0.003
	(0.27)	(-0.32)	(0.29)	(-0.39)
LTG*SUE	0.604	-3.852	2.635	-3.914
	(0.28)	(-1.24)	(1.26)	(-1.33)
LTG*SMB	-0.001	0.002	0.003	0.004
	(-0.21)	(0.21)	(0.32)	(0.40)
IND & YR Fixed Effects	Yes	Yes	Yes	Yes
N	4,840	4,720	3,331	3,273
Adj-R^2	0.077	0.107	0.083	0.128

Table 5
Investor Reaction to Quarterly Earnings News and Short-Term Earnings Guidance
(continued)

Panel B: Market Reaction to Short-term Earnings Guidance (equation 4b)

	All observations		Subsample of LTG Issuers that are not regular guiders	
	Size/Industry Matched Sample	**PSM Sample**	**Size/Industry Matched Sample**	**PSM Sample**
Intercept	0.005	-0.001	0.010	0.009
	(0.51)	(-0.07)	(0.82)	(0.50)
LTG	-0.004	0.005	-0.003	0.004
	(-0.87)	(0.94)	(-0.48)	(0.64)
SUMF	5.481***	3.930**	6.355***	3.494*
	(5.27)	(2.29)	(7.92)	(1.91)
*LTG*SUMF*	0.966	2.406	-0.759	1.484
	(0.67)	(1.20)	(-0.49)	(0.63)
IND & YR Fixed Effects	Yes	Yes		
N	1,183	1,107	761	720
Adj-R^2	0.201	0.197	0.252	0.189

Table 6
Long-Term Earnings Guidance and Firm Investment: Difference-in-Difference Tests

This table reports difference-in-difference analyses comparing the investment level and investment sensitivity of LTG firms to two matched control samples. We identify 313 LTG initiation observations as the first issuance of LTG by a firm in five years, and include a total of 7 years (3 years before LTG issuance, the year of LTG issuance, and 3 years after LTG issuance) in estimating the regressions. We define POST as an indicator variable for the year of and three years after LTG issuance. Panel A reports the OLS regression results testing whether LTG firms differ from control firms in their investment levels after LTG initiation. Panel B reports the OLS regression results testing whether LTG firms differ from control firms in their investment sensitivity after LTG initiation. ***, **, and * indicate significance levels at 1%, 5%, and 10%, respectively. Industry fixed effect is defined using Fama-French 12-industry classification. Firm-clustered t-statistics are reported in parentheses. See the Appendix A for definitions of all variables.

Panel A: Investment Level

	Size/Industry Matched Sample		PSM Sample	
	CAPEX	ΔPPE	CAPEX	ΔPPE
Intercept	9.711***	9.335***	6.967***	5.079***
	(5.69)	(4.77)	(5.24)	(3.83)
LTG	0.587	-0.366	0.672	0.613
	(1.19)	(-0.53)	(1.39)	(1.04)
POST	-0.187	-0.783	-0.26	0.13
	(-0.65)	(-1.61)	(-0.94)	(0.35)
LTG*POST	-0.262	0.267	-0.361	-0.938*
	(-0.7)	(0.43)	(-1.05)	(-1.71)
TOBINQ	0.097	-0.01	0.662***	0.551***
	(0.64)	(-0.07)	(2.99)	(2.83)
Log(AT)	-0.468***	-0.324***	-0.283**	-0.202*
	(-3.98)	(-3.05)	(-2.57)	(-1.85)
ROA	6.816***	5.101***	10.219***	7.468***
	(2.89)	(2.79)	(3.86)	(3.87)
CASH	-0.249	0.416	-1.703	-0.408
	(-0.25)	(0.42)	(-1.47)	(-0.41)
LEV	-0.984	-1.449	0.642	0.926
	(-0.57)	(-1.13)	(0.55)	(0.72)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	3,206	3,273	2,943	2,941
Adj-R^2	0.307	0.114	0.303	0.125

Table 6
Long-Term Earnings Guidance and Firm Investment: Difference-in-Difference Tests
(continued)

Panel B: Sensitivity to Investment Opportunities

	Size/Industry Matched Sample		PSM Sample	
	CAPEX	ΔPPE	CAPEX	ΔPPE
Intercept	9.475***	9.372***	6.607***	4.847***
	(5.55)	(4.43)	(5.04)	(3.42)
LTG	-0.067	-0.878	0.047	0.799
	(-0.08)	(-0.75)	(0.06)	(0.77)
POST	0.517	-0.527	0.017	0.241
	(1.08)	(-0.71)	(0.04)	(0.36)
LTG*POST	0.537	0.476	1.346*	-0.623
	(0.67)	(0.44)	(1.74)	(-0.54)
TOBINQ	0.321	-0.027	0.889***	0.72**
	(1.4)	(-0.1)	(3.57)	(2.47)
TOBINQ*LTG	0.43	0.342	0.418	-0.12
	(0.95)	(0.71)	(0.94)	(-0.25)
TOBINQ*POST	-0.469**	-0.173	-0.208	-0.075
	(-2.03)	(-0.63)	(-1.03)	(-0.23)
TOBINQ*LTG*POST	-0.571	-0.152	-1.163**	-0.223
	(-1.22)	(-0.31)	(-2.50)	(-0.4)
Log(AT)	-0.443***	-0.315***	-0.258**	-0.197*
	(-3.83)	(-2.96)	(-2.43)	(-1.8)
ROA	7.767***	5.529***	11.395***	7.569***
	(3.09)	(3.01)	(5.81)	(4.43)
CASH	-0.407	0.389	-1.869*	-0.425
	(-0.42)	(0.39)	(-1.69)	(-0.43)
LEV	-1.031	-1.478	0.612	0.924
	(-0.6)	(-1.15)	(0.54)	(0.72)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	3,206	3,273	2,943	2,941
Adj-R^2	0.314	0.115	0.315	0.126

Table 7
Long-Term Earnings Guidance and the Tendency to Just Meet or Beat Quarterly Earnings:
Difference-in-Difference Tests

This table reports difference-in-difference analyses comparing the frequency to meet-or-just-beat analyst forecasts of LTG firms to two matched control samples. We identify 313 LTG initiation observations as the first issuance of LTG by a firm in five years, and include a total of 7 years (3 years before LTG issuance, the year of LTG issuance, and 3 years after LTG issuance) in estimating the regressions. We define POST as an indicator variable for the year of and three years after LTG issuance. ***, **, and * indicate significance levels at 1%, 5%, and 10%, respectively. Industry fixed effect is defined using Fama-French 12-industry classification. Firm-clustered t-statistics are reported in parentheses. See the Appendix A for definitions of all variables.

	Size/Industry Matched Sample	*PSM Sample*
Intercept	157.069***	158.719**
	(2.98)	(2.53)
LTG	9.697	4.134
	(0.95)	(0.37)
POST	-0.941	-9.369
	(-0.12)	(-1.17)
*LTG*POST*	-6.001	1.917
	(-0.59)	(0.18)
LEV	-67.684**	-76.576***
	(-2.4)	(-2.71)
BTM	-12.291**	-37.336*
	(-1.97)	(-1.86)
OPCYCLE	-10.736	-8.767
	(-1.33)	(-1.2)
CAPINT	-12.797	-41.661
	(-0.52)	(-1.61)
ROA	147.327***	105.268**
	(3.5)	(2.23)
Log(MV)	0.417	5.416
	(0.14)	(1.4)
INST	-7.817	-33.268
	(-0.3)	(-1.11)
σ(CFO)	-8.25	-66.574
	(-0.07)	(-0.44)
σ(EARN)	-19.93	-167.244
	(-0.34)	(-1.00)
IND & YR Fixed Effects	Yes	Yes
N	2,704	2,473
Adj-R^2	0.256	0.253

Table 8
Investor Reaction to Quarterly Earnings News and Short-Term Earnings Guidance: Difference-in-Difference Tests

This table reports difference-in-difference analyses comparing the investment level and investment sensitivity of LTG firms to two matched control samples. We identify 313 LTG initiation observations as the first issuance of LTG by a firm in five years, and include a total of 7 years (3 years before LTG issuance, the year of LTG issuance, and 3 years after LTG issuance) in estimating the regressions. We define POST as an indicator variable for the year of and three years after LTG issuance. Panel A reports the OLS regression results of market reaction to quarterly earnings news. Panel B reports the OLS regression results of market reaction to the announcement of short-term earnings guidance. ***, **, and * indicate significance levels at 1%, 5%, and 10%, respectively. Industry fixed effect is defined using Fama-French 12-industry classification. Firm-clustered t-statistics are reported in parentheses. See the Appendix A for definitions of all variables.

Panel A: Market Reaction to Quarterly Earnings Announcements

	All observations	
	Size/Industry Matched Sample	**PSM Sample**
Intercept	0.014*	-0.004
	(1.86)	(-0.32)
SUE	0.739	2.039***
	(1.57)	(3.62)
*SUE*LTG*	-0.864*	-2.193***
	(-1.68)	(-3.7)
*SUE*POST*	-0.696	0.909
	(-1.45)	(0.8)
*SUE*LTG*POST*	0.723	-0.863
	(1.49)	(-0.76)
SMB	0.002	-0.001
	(0.38)	(-0.25)
*SMB*LTG*	0.001	0.002
	(0.11)	(0.32)
*SMB*POST*	-0.003	-0.001
	(-0.39)	(-0.27)
*SMB*LTG*POST*	0.000	0.002
	(-0.01)	(0.34)
LTG	0.001	-0.002
	(0.53)	(-0.87)
POST	-0.002	-0.006**
	(-0.85)	(-2.32)
*LTG*POST*	0.002	0.006**
	(0.56)	(2.1)
IND & YR Fixed Effects	Yes	Yes
N	12,369	10,775
Adj-R^2	0.005	0.023

Table 8
Investor Reaction to Quarterly Earnings News and Short-Term Earnings Guidance:
Difference-in-Difference Tests (continued)

Panel B: Market Reaction to Short-term Earnings Guidance

	All observations	
	Size/Industry Matched Sample	PSM Sample
Intercept	-0.007	-0.004
	(-0.68)	(-0.17)
SUMF	8.084***	3.302*
	(3.08)	(1.66)
*SUMF*LTG*	-0.569	4.807*
	(-0.18)	(1.88)
*SUMF*POST*	-3.039	0.226
	(-1.35)	(0.15)
*SUMF*LTG*POST*	2.751	-0.781
	(0.94)	(-0.27)
LTG	0.001	0.012*
	(0.13)	(1.86)
POST	0.001	-0.007
	(0.18)	(-1.05)
*LTG*POST*	-0.005	0.000
	(-0.71)	(-0.04)
IND & YR Fixed Effects	Yes	Yes
N	2,133	1,928
Adj-R^2	0.188	0.128

Appendix A
Definition of Variables

Long-Term Guidance Measures:

Variables	Definition
LTG	An indicator variable coded as 1 if management issues long-term earnings guidance for 3~5 year horizon during fiscal year *t*, 0 otherwise.

Investment Measures:

Variables	Definition
CAPEX	Capital expenditure (CAPX), deflated by lagged total assets (AT)
CHPPE	Change in net fixed assets (PPENT), deflated by lagged total assets (AT)

Earnings Management Measures:

Variables	Definition
NSMB	Number of quarters within year t where Actual EPS – EPS Forecast is between 0 ~ 1 cent.

Market Reaction Test Variables:

Variables	Definition
CAR_EAD	3-day size-adjusted return centered on quarterly earnings announcement date.
CAR_MF	3-day size-adjusted return centered on the announcement date of quantitative (point or range) management earnings guidance issued within 90 days of the fiscal period end.
SUE	Actual quarterly EPS – consensus analyst forecast of quarterly EPS, deflated by beginning price.
SMB	Indicator variables that equals 1 is actual quarterly EPS – forecast quarterly EPS is between 0 ~ 1 cent, and 0 otherwise.
SUMF	Management (point or range) forecast of EPS issued within 90 days of the fiscal period end – prevailing consensus analyst forecast of EPS, deflated by beginning price.

Control and Other Variables:

Variables	Definition
BTM	Ratio of book to market value of equity calculated as book value of equity (*CEQ*) scaled by market value of equity (*CSHO* × *PRCC_F*).
CASH	Cash (CHE) divided by total assets (AT).
CHURN	Weighted-average turnover rate of all institutional investors of the firm, multiplied by negative one. Turnover rate is measured at the end of year t, and defined using the methodology in Gaspar et al. (2005). Note the Gaspar et al. (2005) measure captures the average turn-over rate of all institutional investors for a given firm at a given time, thus it is negatively correlated with the average investment horizon of a firm's institutional investors. Since we multiply this turnover rate with negative one, higher *CHURN* indicates longer investment horizon of institutional investors.
DIV	Indicator variable coded as one if the firm declares at least two quarterly dividends during the previous year, zero otherwise.
Ex-ante Optimism	Management guidance of EPS growth rate issued in year t minus annual EPS growth from year t-4 to year t-1

Ex-post Optimism	Annual EPS growth from year t to year t+3 minus management guidance of EPS growth rate issued in year t
INST	Percentage institutional ownership measured at the end of year t.
INST_D	Percentage of dedicated institutional ownership (per Bushee 1998) measured at the end of year t.
INST_Q	Percentage of quasi-indexer institutional ownership (per Bushee 1998) measured at the end of year t.
INST_T	Percentage of transient institutional ownership (per Bushee 1998) measured at the end of year t.
LEV	Proportion of long-term debt (*DLTT*) to total assets (*AT*).
Log(MV)	Natural log of market value of equity at fiscal year end.
Log(NAF)	Natural log of the number of analysts that issued earnings forecasts for the firm during the current year.
Log(NLTAF)	Natural log of the number of analysts issuing long-term-growth forecast for the firm during year t.
POST	Indicator variable coded as one for the year of and three years after the first issuance of LTG, and zero for the three years before the first issuance of LTG.
RET	Market-adjusted buy-and-hold returns for the 12 months beginning from month -12 ending month -1, with month 0 being the announcement month.
ROA	Operating income before depreciation (OIBDP) divided by lagged total assets (AT)
RVOL	Return volatility, measured as standard deviation of daily raw returns over a 12-month period.
TOBINQ	Predicted Tobin's Q, measured as the predicted value of regressing Tobin's Q (PRCC_F*CSHPRI+PSTKL+DLTT+DLC-TXDITC divided by lagged AT) on sales growth ($SALE_t/SALE_{t-1}-1$), return on assets (OIBDP divided lagged AT), net income before extraordinary items (IB), leverage (DLTT/AT), and year fixed effects. The regression is run separately for each Fama-French 48 industries.

Appendix B
Examples of Long-Term Earnings Guidance

1. Example of numeric range forecast

Q2 2011 Kroger Co. Earnings Conference Call
September 9, 2011
Mike Schlotman, CFO and SVP, Kroger Co

"Thanks, Rodney and good morning, everyone. As we reported earlier today, Kroger's second quarter net earnings totaled $280.8 million, or $0.46 per diluted share. Net earnings in the same period last year were $261.6 million, or $0.41 per diluted share. Both the current and prior year quarters benefited from certain tax adjustments. Without the benefit of these adjustments, earnings per share would have been $0.41 in the second quarter this year and $0.38 in the second quarter last year. *This 7.9% increase is consistent with Kroger's expectations for the quarter and long-term earnings growth expectations of 6% to 8%.*"
[emphasis added]

2. Example of non-numeric range forecast

Regis Corporation Earnings Announcement, for the fiscal quarter ended December 31, 2001.
Press release dated January 23, 2002

"We are extremely pleased to report record second quarter results. Despite one of the most challenging economic environments for the retail sector in more than a decade, our second quarter revenues increased 11 percent to a record $359 million and earnings grew to a record $0.39 per diluted share, beating expectations by $0.02," commented Paul D. Finkelstein, President and Chief Executive Officer. "EBITDA growth also exceeded our expectations for the quarter increasing to $47 million. We continue to expect EBITDA for all of fiscal year 2002 to increase to about $190 million." "Our second quarter expansion plans were also on target. We opened and acquired 193 corporate and franchised salons, bringing our total worldwide salon count to 7,365. We expect to finish the year with nearly 8,000 salons," continued Mr. Finkelstein. "Although we continue to expect only modest same-store sales growth for the remainder of our fiscal year, we remain comfortable with current fiscal year earnings forecasts of $1.55 per diluted share." "Finally, we continue to remain extremely bullish about our future," continued Mr. Finkelstein. "In the first half of our fiscal year we have expanded our domestic salon presence, acquired the infrastructure to further expand internationally through franchising and met our objective of strengthening our balance sheet, all while growing earnings. Looking at fiscal year 2003, we are comfortable with earnings expectations of $1.75 per diluted share, an increase of 13 percent. *The 13 percent earnings growth for fiscal year 2003 is consistent with our long-term earnings growth expectations of low to mid-teens.*"
[emphasis added]

3. Example of point forecast

Baxter Intl Inc. at Bear, Stearns & Co. Inc. 18th Annual Healthcare Conference
September 12, 2005
John Greisch, CFO, Baxter International

"So just in summary, financially what do we expect in the future? It looks like at least in the next 3 to 5-year period relatively modest top-line revenue growth. And again, this excludes any acquisitions and excludes the deployment of the free cash flow that we expect to generate during this period. Gross margin expansion, operating margin expansion to a minimum of 70% during the period, *with a commitment to deliver 10% earnings per share growth again over the next 5-year period*. All of that will begin before we deploy any significant free cash flow that we expect to generate -- and I am sure we will get into that in the Q&A – during the next three to five years." [Emphasis added]

4. Example of an update of prior LTG

Q4 2005 PPL Corporation Earnings Conference Call
February 1, 2006
Bill Hecht, Chairman & CEO, PPL Corporation

"*In addition to reaffirming our 2006 forecast this morning, we're also increasing our forecast of compound annual earnings growth through 2010 to 11%*. The 11% growth rate in earnings is based on a starting point of $2.08 per share for 2005 from ongoing operations. *The new long-term forecast for 2010 target earnings of about $3.50 a share, and that's a significant increase, as you will recall, over our previous long-term forecast of 6 to 7% and that was first announced last August*. The prospect of favorable new energy contracts for PPL as fixed-price supply contracts expire in conjunction with sharp increases in forward wholesale prices over the past six months, leads us to increase the long-term earnings forecast. And as we've mentioned with you in the past, this is based on very visible growth, identified and specified growth opportunities. And it incorporates today's current 2010 forward energy prices, fuel prices, emission allowance prices, and fuel transportation costs."

Table O1. Accrual-based Earnings Management

This table reports univariate and OLS regression results comparing the absolute value of measures of accrual-based earnings management between LTG firms and their respective control samples. Panel A reports mean and median statistics and tests of difference, and Panel B reports the OLS cross-sectional estimation results of the equation: $EM_{it} = \alpha_0 + \beta_1 LTG_{it-1} + \beta_2 LEV_{it-1} + \beta_3 BTM_{it-1} + \beta_4 OPCYCLE_{it-1} + \beta_5 CAPINT_{it-1} + \beta_6 ROA_{it-1} + \beta_7 SIZE_{it-1} + \beta_8 INST_{it-1} + \beta_9 \sigma(CFO)_{it-1} + \beta_{10}\sigma(EARN)_{it-1} + \Sigma IND + \Sigma YEAR + \varepsilon_{it}$. ***, **, and * indicate significance levels at 1%, 5%, and 10%, respectively. Firm-clustered t-statistics are reported in parentheses. Industry fixed effect is defined using Fama-French 12-industry classification.

Panel A: Univariate comparisons

Size/Industry Matched	N	LTG = 1 Mean	Median	N	LTG = 0 Mean	Median	Difference (1- 0) Mean	Median
|ABAC|	513	0.051	0.040	503	0.051	0.034	0.000	0.006*
|ABDD|	450	0.038	0.027	437	0.040	0.024	-0.002	0.003
|ABREV|	509	0.014	0.008	500	0.016	0.009	-0.001	-0.001

PSM	N	LTG = 1 Mean	Median	N	LTG = 0 Mean	Median	Difference (1 - 0) Mean	Median
|ABAC|	508	0.050	0.040	486	0.044	0.031	0.006*	0.009***
|ABDD|	445	0.038	0.027	418	0.034	0.022	0.004	0.005**
|ABREV|	504	0.014	0.008	484	0.016	0.011	-0.002	-0.003**

Panel B: Cross-sectional regression

	Size/Industry Matched Sample			PSM Sample		
	|ABAC|	|ABDD|	|ABREV|	|ABAC|	|ABDD|	|ABREV|
Intercept	12.9**	13.724***	2.638*	4.167	8.344*	1.577
	(2.4)	(3.2)	(1.67)	(0.81)	(1.69)	(1.13)
LTG	0.227	0.226	0.032	0.579	0.311	-0.043
	(0.46)	(0.53)	(0.23)	(1.34)	(0.78)	(-0.32)
LEV	-0.015	-0.048	0.227	-0.596	1.146	0.477
	(-0.01)	(-0.03)	(0.45)	(-0.28)	(0.64)	(0.84)
BTM	-0.224	-0.948	-0.002	2.752	3.201	-0.464*
	(-0.38)	(-1.5)	(-0.01)	(1.46)	(1.6)	(-1.78)
OPCYCLE	-0.012	-0.045	0.025	0.401	-0.146	0.127
	(-0.03)	(-0.14)	(0.17)	(1.17)	(-0.47)	(0.9)
CAPINT	-2.394	-3.599***	-2.068***	0.408	-3.022**	-1.364***
	(-1.32)	(-2.71)	(-3.48)	(0.24)	(-2.11)	(-3.13)
ROA	-3.844	-3.995	-0.429	4.031	1.87	-1.05
	(-1.15)	(-1.38)	(-0.41)	(0.65)	(0.32)	(-0.92)
Log(MV)	-0.03	-0.432***	-0.178***	-0.072	-0.278	-0.088
	(-0.18)	(-2.74)	(-2.62)	(-0.43)	(-1.64)	(-1.63)
INST	-1.96	-1.746	-0.152	-1.93	-1.282	0.114
	(-1.22)	(-1.2)	(-0.27)	(-1.15)	(-0.75)	(0.21)
$\sigma(CFO)$	-5.455	-4.132	6.049	-0.794	21.076**	7.693
	(-0.28)	(-0.34)	(1.57)	(-0.07)	(2.27)	(1.59)
$\sigma(EARN)$	20.397	26.006***	-1.095	8.883	2.423	-2.477
	(1.53)	(2.84)	(-0.44)	(1.17)	(0.39)	(-0.74)
IND & YR FE	Yes	Yes	Yes	Yes	Yes	Yes
N	1,016	887	1,009	994	863	988
Adj-R^2	0.074	0.137	0.135	0.098	0.152	0.165

Panel C: Subsample analysis - LTG Issuers that are not regular guiders

	Size/Industry Matched Sample			PSM Sample		
	|ABAC|	|ABDD|	|ABREV|	|ABAC|	|ABDD|	|ABREV|
LTG	0.672	0.766*	0.182	0.990**	0.500	0.061
	(1.26)	(1.79)	(1.08)	(2.31)	(1.24)	(0.39)
Control Variables & Industry/Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	724	619	719	713	610	709
Adj-R^2	0.094	0.181	0.141	0.091	0.154	0.164

Panel D: Subsample analysis - LTG Issuers that did not issue short-term guidance

	Size/Industry Matched Sample			PSM Sample		
	|ABAC|	|ABDD|	|ABREV|	|ABAC|	|ABDD|	|ABREV|
LTG	0.488	-0.056	-0.073	0.365	0.137	0.119
	(0.71)	(-0.08)	(-0.23)	(0.39)	(0.21)	(0.37)
Control Variables & Industry/Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	200	184	198	193	170	191
Adj-R^2	0.206	0.297	0.206	0.167	0.302	0.224

Table O2. Real Earnings Management

This table reports univariate and OLS regression results comparing real earnings management activity between LTG/ANNG firms and their respective propensity score-matched control samples. Panel A reports the mean and median statistics and tests of difference, and Panel B reports the OLS cross-sectional estimation results of the equation: $REALEM_{it} = \alpha_0 + \beta_1 LTG_{it-1} + \beta_2 PMBAF_{it-1} + \beta_3 STK\_ISSUE_{it-1} + \beta_4 NAF_{it-1} + \beta_5 BTM_{it-1} + \beta_6 SHROUT_{it-1} + \beta_7 MV_{it-1} + \beta_8 ROA_{it-1} + \Sigma IND + \Sigma YEAR + \varepsilon_{it}$. ***, **, and * indicate significance levels at 1%, 5%, and 10%, respectively. Firm-clustered t-statistics are reported in parentheses. Industry fixed effect is defined using Fama-French 12-industry classification.

Panel A: Univariate comparisons

Size/Industry Matched	**LTG = 1**			**LTG = 0**			**Difference (1-0)**	
	N	Mean	Median	N	Mean	Median	Mean	Median
DISCFO	461	0.098	0.079	412	0.086	0.059	0.012	0.020**
DISEXP	456	-0.074	-0.072	405	-0.067	-0.058	-0.006	-0.014
DISPROD	430	-0.063	-0.081	389	-0.034	-0.030	-0.030*	-0.050***
PSM	**LTG = 1**			**LTG = 0**			**Difference (1-0)**	
	N	Mean	Median	N	Mean	Median	Mean	Median
DISCFO	447	0.098	0.078	423	0.110	0.081	-0.012	-0.003
DISEXP	442	-0.072	-0.072	387	-0.068	-0.055	-0.004	-0.016
DISPROD	418	-0.065	-0.082	397	-0.053	-0.041	-0.012	-0.041

Panel B: Cross-sectional regressions

	Size/Industry Matched Sample			**PSM Sample**		
	DISCFO	DISEXP	DISPROD	DISCFO	DISEXP	DISPROD
Intercept	-13.707**	3.001	23.283**	-10.533	-3.076	23.015**
	(-2.37)	(0.3)	(2.3)	(-1.62)	(-0.3)	(2.09)
LTG	0.208	-1.169	-0.995	-0.612	-1.013	-0.677
	(0.24)	(-0.63)	(-0.43)	(-0.72)	(-0.6)	(-0.34)
PMBAF	0.599	3.809	-3.818	0.413	8.08**	-9.181*
	(0.29)	(1.03)	(-0.78)	(0.22)	(2.36)	(-1.87)
STK_ISSUE	0.546	-10.782**	8.441*	1.202	-15.128***	14.812*
	(0.28)	(-2.49)	(1.87)	(0.48)	(-3.41)	(1.77)
Log(NAF)	0.693	1.582	-3.483	1.452	-3.695*	1.483
	(0.59)	(0.74)	(-1.15)	(1.22)	(-1.77)	(0.57)
BTM	-0.82	-4.19*	4.187	-2.281	-2.297	3.489
	(-0.74)	(-1.7)	(1.16)	(-1.31)	(-0.84)	(1.02)
Log(SHROUT)	0.074	3.688**	-3.154	0.662	2.095	-3.8*
	(0.08)	(2.19)	(-1.51)	(0.67)	(1.1)	(-1.92)
Log(MV)	0.961	-4.823***	2.531	0.186	-1.641	1.716
	(1.15)	(-2.82)	(1.28)	(0.2)	(-0.91)	(0.91)
ROA	26.95***	49.151***	-66.73***	18.15***	39.137**	-55.529***
	(5.22)	(3.36)	(-4.9)	(3.3)	(2.35)	(-3.15)
IND & YR Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
N	873	861	819	870	829	815
Adj-R^2	0.539	0.228	0.339	0.566	0.215	0.332

Panel C: Subsample Analysis - LTG Issuers that are not regular guiders

	Size/Industry Matched Sample			PSM Sample		
	DISCFO	DISEXP	DISPROD	DISCFO	DISEXP	DISPROD
LTG	0.461	-1.312	-1.780	-0.774	-0.771	-1.460
	(0.46)	(-0.62)	(-0.72)	(-0.79)	(-0.41)	(-0.68)
Control Variables & Industry/Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	607	597	567	625	590	583
Adj-R^2	0.530	0.322	0.388	0.562	0.272	0.378

Panel D: Subsample Analysis - LTG Issuers that did not issue short-term guidance

	Size/Industry Matched Sample			PSM Sample		
	DISCFO	DISEXP	DISPROD	DISCFO	DISEXP	DISPROD
LTG	1.741	-1.640	0.182	-1.626	-1.477	-0.783
	(1.02)	(-0.43)	(0.04)	(-0.91)	(-0.45)	(-0.22)
Control Variables & Industry/Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	156	150	143	165	155	148
Adj-R^2	0.529	0.466	0.408	0.551	0.395	0.426

Long-Term Guidance Measures:

Variables	Definition
LTG	An indicator variable coded as 1 if management issues long-term earnings guidance for 3~5 year horizon during fiscal year *t*, 0 otherwise.

Earnings Management Measures:

Variables	Definition
ABAC	Abnormal accruals measured as the regression residuals based on the Jones (1991) model after controlling for economic losses as in Ball and Shivakumar (2006). The following regression model is estimated annually (quarterly) for each industry (based on 2-digit SIC codes) with at least 20 observations: $$ACC_{it} = \alpha_0 + \beta_1 \Delta REV_{it} + \beta_2 NPPE_{it} + \beta_3 INDADJ\_CFO_{it} + \beta_4 DIND_{it} + \beta_5(DIND_{it} \times INDADJ\_CFO_{it}) + \varepsilon_{it}.$$ *ACC* is total accruals calculated from statement of cash flow (SCF) data as earnings before extraordinary items minus cash flows from operations. (Quarterly earnings before extraordinary items and quarterly cash flow from operations are calculated using the year-to-date data items *IBCY* and *OANCFY* in Compustat.) ΔREV is change in revenue (*SALE*). *NPPE* is net property, plant, and equipment (*PPENT*) at the beginning of the year (quarter). (We use net *PP&E* at the beginning of the quarter because quarterly gross *PP&E* (*PPEGTQ*) is missing for a large number of observations in Compustat.) *INDADJ_CFO* is annual (quarterly) cash flow from operations minus the median cash flow from operations for all firms in the same industry (based on 2-digit SIC code) in the same year (quarter). *DIND* is a dummy variable set to one if *INDADJ_CFO* is less than zero and set to zero otherwise. All variables except *DIND* are deflated by average total assets (*AT*), and all input variables are winsorized at the extreme 1 and 99 % level. The regression residuals ($\varepsilon_{i,t}$) are multiplied by 100. When taking the absolute value, larger values of |*ABAC*| indicate more earnings management.
ABDD	Abnormal accruals measured as the regression residuals from the Dechow-Dichev (2002) model after controlling for economic losses as in Ball and Shivakumar (2006). The following regression model is estimated annually (quarterly) for each industry (based on 2-digit SIC codes) with at least 20 observations: $$ACC_{it} = \alpha_0 + \beta_1 CFO_{it-1} + \beta_2 CFO_{it} + \beta_3 CFO_{it+1} + \beta_4 DIND_{it} + \beta_5(DIND_{it} \times INDADJ\_CFO_{it}) + \varepsilon_{it}.$$ *ACC* is total accruals calculated from statement of cash flow (SCF) data as earnings before extraordinary items minus cash flow from operations. (Quarterly earnings before extraordinary items and quarterly cash flow from operations are calculated using the year-to-date data items *IBCY* and *OANCFY* in Compustat.) *INDADJ_CFO* is cash from operations minus the median cash from operations for all firms in the same industry (based on 2-digit SIC code) in the same year (quarter). *DIND* is a dummy variable set to one if *INDADJ_CFO* is less than zero, and set to zero otherwise. All variables except *DIND* are deflated by average total assets (*AT*). The regression residuals ($\varepsilon_{i,t}$) are multiplied by 100. When taking the absolute value, larger values of |*ABDD*| indicate more earnings management.
ABREV	Abnormal revenues measured as the regression residuals based on the Stubben (2010) model. The following regression model is estimated annually for each industry (based on two-digit SIC codes) with at least 20 observations: $$\Delta AR_{it} = \alpha_0 + \beta_1 \Delta R1\_3_{it} + \beta_2 \Delta R4_{it} + \varepsilon_{it}.$$

Variables	Definition
	ΔAR is annual change in accounts receivables (*RECT*). $\Delta R1\_3$ is change in the revenues of the first three quarters. $\Delta R4$ is the change in revenues of the fourth quarter. All input variables are winsorized at the extreme 1 % and 99 % level. The regression residuals ($\varepsilon_{i,t}$), is multiplied by 100. When taking absolute values, larger values of |*ABREV*| indicate more earnings management.
DISCFO	Abnormal operating cash flows, measured as the residuals from the following regression: $CFO_{it}/A_{it-1} = \alpha_0 + \beta_1(1/A_{it-1}) + \beta_2(REV_{it}/A_{it-1}) + \beta_3(\Delta REV_{it}/A_{it-1}) + \varepsilon_{it}$. The regression model is estimated annually for each industry (based on 2-digit SIC codes) with at least 20 observations. *CFO* is cash flow from operations (*OANCF*). *REV* is revenue (*SALE*). *A* is total assets (*AT*). We multiply *DISCFO* by negative one so higher values of *DISCFO* are consistent with income-increasing earnings management.
DISEXP	Abnormal discretionary expenses, measured as the residuals from the following regression: $DISEXP_{it}/A_{it-1} = \alpha_0 + \beta_1(1/A_{it-1}) + \beta_2(REV_{it-1}/A_{it-1}) + \varepsilon_{it}$. The regression model is estimated annually for each industry (based on 2-digit SIC codes) with at least 20 observations. *DISEXP* is SG&A expenses (*XSGA*). *REV* is revenue (*SALE*). *A* is total assets (*AT*). We multiply DISEXP by negative one so higher values of *DISEXP* are consistent with income-increasing earnings management.
DISPROD	Abnormal production costs, measured as the residuals from the following regression: $PROD_{it}/A_{it-1} = \alpha_0 + \beta_1(1/A_{it-1}) + \beta_2(REV_{it}/A_{it-1}) + \beta_3(\Delta REV_{it}/A_{it-1}) + \beta_4(\Delta REV_{it-1}/A_{it-1}) + \varepsilon_{it}$. The regression model is estimated annually for each industry (based on 2-digit SIC codes) with at least 20 observations. *PROD* is production cost, measured as the sum of *COGS* and increase in inventory (*COGS – INVCH*). *REV* is revenue (*SALE*). *A* is total assets (*AT*). Higher values of *DISPROD* are consistent with income-increasing earnings management.

Control Variables:

Variables	Definition
BTM	Ratio of book to market value of equity calculated as book value of equity (*CEQ*) scaled by market value of equity (*CSHO* × *PRCC_F*).
OPCYCLE	Natural log of the firm's operating cycle measured in days, based on turnover in accounts receivable and inventory. Specifically, the firm's operating cycle is calculated as $360 \times ((AR_t + AR_{t-1})/SALES_t + (INV_t + INV_{t-1})/COGS_t)$. *AR* is accounts receivable (*RECT*). *SALES* is sales revenue (*SALE*). *INV* is inventory (*INVT*). *COGS* is cost of goods sold (*COGS*).
CAPINT	Capital intensity calculated as net property, plant, and equipment (*PPENT*) divided by total assets (*AT*).
ROA	Operating income before depreciation (OIBDP) divided by lagged total assets (AT)
Log(MV)	Natural log of market value of equity at fiscal year end.
INST	Percentage institutional ownership measured at the end of year t.
σ(CFO)	Standard deviation of annual cash flow (*OANCF*) deflated by average total assets. Standard deviations are calculated over the prior 10 years. A minimum of 5 years of data is required for the calculation σCFO.
σ(EARN)	Standard deviation of annual earnings before extraordinary items (*IB*) deflated by average total assets. Standard deviations are calculated over the prior 10 years. A minimum of 5 years of data is required for the calculation σEARN.

LEV	Proportion of long-term debt (*DLTT*) to total assets (*AT*).
PMBAF	A firm's percentage of meeting or beating earnings expectations in the 8 quarters during year t and t-1. Expected earnings is measured as consensus analyst forecasts before earnings announcements from IBES.
STK_ISSUE	An indicator variable coded as one if the firm increases the number of shares outstanding in year t (*CSHO*) by at least 20 % and zero otherwise.
NAF	Number of analysts that issued earnings forecasts for the firm during the current year.
SHROUT	Number of shares outstanding at fiscal year end.