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Earning Investor Trust: The Role of Past Earnings Management

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March 2018

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Keywords: Earnings management, earnings response, credibility, trust

JEL Classifications: G14, G30, M41

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February 22, 2018

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1 Introduction and Hypothesis Development

A large recent literature suggests that generalized trust, that is, the trust that market participants place in the overall integrity of the institutional, legal and political environment matters greatly for capital markets.[1] In this paper, we are instead interested in firm-specific trust. Does the market react to corporate news more when the sender of these news, management, is reputed to send reliable news and to be more trustworthy? How can managers build trust of investors regarding the signals they provide? These questions are important because they speak to whether market discipline can help sustain integrity in financial reporting. To answer them we consider the market's reaction to earnings news released by a firm. We show that this reaction depends on the firm's past earnings management as well as on the incentives and opportunities that management had to engage in (legal) earnings management in the past.

We focus on the reaction to earnings announcements for two reasons. First, earnings are one of the most important performance measures to investors (Beaver, 1968; Eccles et al., 2001; Ronen and Yaari, 2007), and CFOs consider earnings as the most important number they communicate externally, rather than cash flow and other measures (Graham, Harvey, and Rajgopal, 2005).

Second, as argued by Pevzner, Xie, and Xin (2015), controlling for other factors, the earnings response coefficient is an indicator of how strongly the market trusts the earnings news of a company to predict the future. This is especially relevant as the reporting of "alternative facts" as regards earnings – earnings misrepresentation – is commonplace in the corporate world. For example, the 400 CFOs surveyed by Dichev, Graham, Harvey,

[1] For example, Guiso, Sapienza, and Zingales (2008) show that stock market participation is lower in countries where there is higher distrust in the legal and institutional environments. Pevzner, Xie, and Xin (2015) document that higher social trust in a country as well as higher earnings quality on the country level is associated with larger reactions to earnings announcements. Bottazzi, Da Rin, and Hellmann (2016) study the role of intercountry trust for venture capital investments. Giannetti and Wang (2016) and Gurun, Stoffman, and Yonker (2017) study the capital market consequences of fraud.

and Rajgopal (2016) believe that 20% of companies intentionally (and substantially) distort earnings, even while adhering to GAAP.

How should the market assess the credibility of management when it comes to earnings? For a managerial action to be a convincing signal, it has to be observable and costly, that is, management should have an incentive to act differently to influence (contractual) outcomes for them. In this paper, we explore whether a firm's track record of low earnings management provides a signal that lends credibility to future earnings releases. As such, we consider earnings management not only as an aspect of current earnings that investors need to "filter out" in order to obtain a clearer picture of the fundamental economic performance of a company.[2] Rather, we test whether, especially over the longer run, the market interprets the degree of earnings management as containing information about the broader issue of a firm's credibility. Based on existing research, it is not clear whether this will indeed be case.

On the one hand, lack of investors' trust in financial reporting is widely regarded as a problem. Earnings management is legal and "*prevalent but still problematic*" (Dichev et al. 2016, p. 27); Healy and Wahlen (1999) note that companies engage in earnings management "*to mislead some stakeholders*" (p. 368); and Jensen (2005, p. 8) goes as far as explicitly referring to earnings management as an act of "*lying*." A firm that historically engaged in little or no earnings management may, therefore, be seen as more committed to accurate reporting, and this may increase the trustworthiness of future reported earnings.

[2]For example, DeFond and Park (2001) show that the market's response to earnings surprises is weaker when the earnings surprise occurred simultaneously with changes in abnormal accruals that were income-enhancing. Bartov, Givoly, and Hayn (2002) find that the market's positive response to meeting or beating expectations is diminished if the earnings were presumably increased by contemporaneous earnings management. Ghosh, Gu, and Jain (2005) show that the relation between current earnings and one-year returns is higher for firms where sustained earnings increases go hand-in-hand with sustained revenue increases. Louis and Sun (2011) find that the post-earnings announcement drift depends on contemporaneous earnings management. For example, most of the downward drift after negative earnings surprises is concentrated among those firms that are most likely to have managed earnings upward in the first place. Companies make earnings forecasts more credible by supplementing them with verifiable forward-looking statements (Hutton, Miller, and Skinner, 2003). Griffin, Hirschey, and Kelly (2011) provide international evidence that better accounting quality measured on the country level is associated with higher ERCs.

Hypothesis 1, therefore, is that the market reaction to an earnings surprise (that is, the earnings response coefficient) is larger for firms with a stronger track record of low levels of earnings management.

On the other hand, managers may use earnings reporting discretion to convey private information.[3] Moreover, earnings management can be beneficial for short-term existing shareholders; it may be difficult to detect correctly; and competitive pressures among firms also play a role (Shleifer, 2004). These considerations suggest that investors may regard the earnings of high-earnings management firms as informative as those of low-earnings management firms, or perhaps even as more informative.

Overall, therefore, it is an empirical question whether investors differentiate among firms with different earnings management histories when it comes to responding to current earnings announcements. We investigate this question using 145,531 earnings announcements of all public U.S. companies in the time period 1993-2014 (though some regressions, such as those including managerial incentives, are conducted using the roughly 70,000 earnings announcements). We measure earnings announcement reactions by the three-day cumulative abnormal return (CAR) around the announcement date. Lagged *Low Earnings Management*, abbreviated as (LEM), is our central explanatory variable of interest. It is a summary measure of how little a company engaged in earnings management in the past. For robustness, we use various standard models to measure earnings management, and we measure the extent of earnings management over different horizons (for example, in the previous year, in the past three years, or over a CEO's or CFO's tenure).

Our first empirical result is that, as predicted by *Hypothesis 1*, historical LEM is positively associated with future earnings responses coefficients (ERC). In other words,

[3]See Watts and Zimmerman (1986), Guay, Kothari, and Watts (1996), Arya, Glover, and Sunder (2003) and Perotti and Windisch (2017). See Healy and Wahlen (1999), Ronen and Yaari (2007), Dechow, Ge, and Schrand (2010) and Walker (2013) for comprehensive summaries and a detailed view on the different aspects of earnings management.

when firms surprise investors with earnings that differ from the analyst consensus forecast, on average the market reacts to the earnings announcements of firms that previously had reported with little earnings management more than to the earnings announcements of firms with a pronounced substantial earnings management history. The quantitative effect is sizeable: A move from the 25th percentile to the 75th percentile of the previous year's *LEM* is associated with an *ERC* increase by 13% to 27%. This result also holds controlling for proxies of contemporaneous earnings management and information uncertainty. Also, three distinct measures of earnings informativeness indicate that the market obtains more information from the earnings news of firms with strong *LEM*. As expected, earnings responses are particularly strong when not only the previous year's *LEM* is high, but when *LEM* is sustained at a high level over a longer time horizon, or indeed over the whole tenure of a CEO or CFO.

While we control for a range of correlates of earnings responses and for fixed effects, identification of a true causal effect of past earnings management of course remains elusive. Although we do not have true exogenous variation in *LEM*, we can make some progress on this issue by running a battery of tests that reveal whether *LEM* plays a bigger role where economic considerations predict bigger effects. Specifically, *Hypothesis 2* recognizes that the market may use information in past earnings management behavior in a more nuanced "litmus test" of management's commitment to credible reporting. Specifically, management's incentives and opportunities to engage in earnings management differ across firms and vary over time. We hypothesize that when managers have resisted the incentive or opportunity to manage earnings, the market should infer from this behavior that management is more trustworthy. Our finer *Hypothesis 2*, therefore, is that the difference in the earnings response between high- and low-earnings management firms is more pronounced where *LEM* provides a stronger signal of management's credibility, that is, where managers

had more incentives or opportunities to conduct earnings management.

In line with this logic, we split the sample along dimensions that proxy for differences among firms in terms of incentives and opportunities for earnings misrepresentation. A remarkably consistent picture emerges. When CEO and CFO monetary incentives to increase the stock price were strong, *LEM* is particularly important in explaining variation of shareholders reactions to earnings announcements. This intriguing result indicates that shareholders understand that managers have differential incentives to engage in earnings management.[4] It is consistent with experimental evidence that shows that an agent's intrinsic commitment to honesty can be inferred to be higher when an agent tells the truth despite economic incentives or social pressure to the contrary (Gibson et al. 2013, 2017).

We also find that in state-industry settings with a more pronounced proclivity towards earnings management, a firm's own *LEM* more strongly affects earnings responses. Thus, in the presence of "social norms" indicating widespread earnings management behavior, a firm that shows strong commitment to refraining from earnings management is seen as particularly credible. Moreover, *LEM* matters especially strongly for earnings announcements reactions in firms with a high fraction of intangible assets, and in high-tech firms. These types of firms have in common that there are arguably more opportunities for earnings management, and it appears that investors draw stronger inferences regarding the value-relevance of reported earnings when managers have abstained from earnings management in the past in such situations. All these results support *Hypothesis 2*.

Next, we further investigate why the market reacts less to earnings of firms with an earnings management track record. A natural explanation would be that higher earnings

[4]Prior literature such as Healy (1985), Bergstresser and Philippon (2006), Burns and Kedia (2006), Efendi, Srivastava, and Swanson (2007), and Johnson, Ryan, and Tian (2009) document associations between earnings management and managerial incentives to increase the stock price. Around 90% of the CFOs surveyed by Dichev, Graham, Harvey, and Rajgopal (2016) state that a reason to misrepresent earnings is to influence executive compensation. There are also factors that work against strong incentives leading to weaker financial reporting quality. For example, Biggerstaff, Cicero, Goldie, and Reid (2016) show that CFOs with weak incentives exert less effort (play more golf), which in turn is related to lower reporting quality.

of firms with low levels of earnings management in the past more reliably predict future earnings. And that is precisely what we find. Moreover, analysts also update their forecasts accordingly, reacting more strongly to earnings news of low earnings management firms.

Finally, we test for differences in the post-earnings announcement drift. It is conceivable that earnings information from firms with more earnings management in the past is more difficult to interpret quickly because it may be considered as more uncertain. Thus, earnings communicated by high- and low-*LEM* firms might be equally informative, but investors initially under-react to earnings of firms with pronounced earnings management in the past. In that case, the drift of firms with low *LEM* scores would be stronger. By contrast, we find that drift does not depend on *LEM*, suggesting that earnings of firms with high past earnings management indeed convey less than the full amount of information.

Overall, the paper provides a coherent set of results showing that the market disciplines firms that consistently (but legally) misrepresent earnings: investors discount such firms' earnings news in the future. Critically, the market responds to past abstinence from earnings management precisely in circumstances when investors may otherwise worry about incentives and opportunities of managers to communicate potentially deceptively. This implies that investors draw a differentiated inference from firms' earnings management activities. In short, our results suggest that investors do not regard earnings management as good or bad per se, but they consider the circumstances.

Our findings regarding firm-specific trustworthiness complement the literature, mentioned at the beginning of the introduction, that investigates the role of overall trust levels for financial markets. With its focus on the role of market discipline, our paper offers a complementary view to analyses which consider the ability of regulation to enhance trust in financial reporting (see, e.g., Gipper, Leuz, and Maffett (2017)). While we focus on trust established by financial reporting styles, other work has shown that trust built up by

corporate social responsibility pays off particularly during crisis times (Lins, Servaes, and Tamayo, 2017). Our results also complement the emerging literature on ethical values of CEOs and firm-specific trust. This literature shows that personal ethical infractions are costly to firms (Cline, Walkling, and Yore, 2018), and that personal and corporate ethics are correlated (e.g., Benmelech and Frydman (2015); Biggerstaff, Cicero, and Puckett (2015); Davidson, Dey, and Smith (2015); Grieser, Li, and Simonov (2017), Griffin, Kruger, and Maturana (2017) and Jia (2013)). Our evidence suggests that the market infers an element of "trustworthiness" of managers from their resistance against temptations.

An important literature has studied *illegal* behavior and fraud. This literature illuminate the direct costs of fraud (Karpoff, Lee, and Martin, 2008; Dyck, Morse, and Zingales, 2010), the indirect costs due to the loss of trust by providers of capital (Wilson, 2008; Chen, Cheng, and Lo, 2014; Fotak, Jiang, Lee, and Lie, 2017) and the role of reputation repair activities which can help restore trust in reporting, as seen in stronger earnings responses (Chakravarthy, deHaan, and Rajgopal, 2014). By contrast, our work focuses on *legal* behavior of management. We argue that this can be particularly informative: Abiding by legal rules can mean that the manager is truly committed to the underlying values, but it can also mean that the risk of getting caught or the fine for fraudulent or criminal actions were perceived as too great. By contrast, when a CEO abstains from legal but problematic actions, this should be more informative about the manager's intrinsic values regarding these actions.

Finally, our work also relates to the accounting literature on earnings responses. For example, Teoh and Wong (1993) and Francis and Ke (2006) find that earnings response coefficients (ERCs) are larger for companies with higher quality auditors. Wang (2006) document higher ERCs among better-governed firms. DeHaan, Hodge, and Shevlin (2013) show that firms adopting clawback provisions enjoy increased ERCs. Ecker, Francis, Kim,

Olsson, and Schipper (2006) and Francis, Lafond, Olsson, and Schipper (2007) show that firms with a higher standard deviation of residuals in accruals prediction models – that is, firms with higher information uncertainty – exhibit lower earnings responses.[5] Our findings are related but distinct from this literature. Specifically, we show that *LEM* is particularly important when shareholders may worry about the incentives and opportunities of managers to misrepresent earnings.

2 Empirical Strategy

2.1 Empirical model for earnings response

Hypothesis 1 is that the market reaction to an earnings surprise is stronger for firms with higher past financial reporting quality. We conduct a straightforward test of this hypothesis. Specifically, in our basic analysis we run the following regression:

$$CAR_{i,t} = \beta_0 + \beta_1 LEM_{i,t-1} + \beta_2 UE_{i,t} + \beta_3 LEM_{i,t-1} * UE_{i,t} + \gamma X_{i,t} + \theta_t + \mu_{i,indu} + \epsilon_{i,t}, \quad (1)$$

where:

CAR = The three-day, cumulative abnormal (market-adjusted) stock return centered on the earnings announcement date,

LEM = Low Earnings Management score (lagged, or estimated over a three-year horizon, or a fixed effect; see Section 3.3 for details),

UE = Unexpected earnings (the earnings surprise),

*LEM*UE* = Interaction of LEM and UE,

X = A vector of control variables, including firm size, book-to-market ratio, leverage, a

[5] Information uncertainty is a different concept than LEM: A firm that consistently manages earnings in one direction has low LEM, but also low information uncertainty. We indeed find that our results also hold controlling for information uncertainty.

loss indicator, and volatility. Moreover, we control for various CEO/CFO incentives and governance variables, and robustness checks add proxies for contemporaneous earnings management and information uncertainty.

We include quarter- (θ) and industry (μ_{indu}) or firm fixed effects (μ_i) in all panel regressions. We calculate robust standard errors, clustered on the firm level. The robustness section presents results with other fixed effects as well as with two-way clustered standard errors.

In line with *Hypothesis 1*, we expect β_3 to be positive. Moreover, to test *Hypothesis 2*, we partition the sample based on executive and firm characteristics such as managerial incentives, managerial ability, intangible asset intensity, and analyst following, among others.

2.2 Empirical Model for Earnings Informativeness

We further investigate the effect of LEM on earnings informativeness (EI). We test whether stock prices react abnormally strongly to earnings announcements of high-LEM firms, where the benchmark of normal movements may be given by expected returns for the announcement period, or by returns (and the volatility of returns) in non-earnings announcement periods. We thus alter the main regressions by changing unexpected earnings to non-directional absolute measures (the choice of which is discussed further below):

$$EI_{i,t} = \beta_0 + \beta_1 LEM_{i,t-1} + \beta_2 Abs(UE)_{i,t} + \beta_3 LEM_{i,t-1} * Abs(UE)_{i,t} + \gamma X_{i,t} + \theta_t + \mu_{i,indu} + \epsilon_{i,t}, \tag{2}$$

where:

EI = One of the three earnings informativeness: 1. *Abs(CAR)*, 2. *NEWS_RATIO*, 3. *AVAR*

LEM = Low Earnings Management score

Abs(UE) = The absolute value of the earnings surprise

*LEM*Abs(UE)* = Interaction of *LEM* and *Abs(UE)*,

X = A vector of control variables as used in the previous regression.

If the earnings announcements of firms with lower earnings management (or higher financial reporting quality) are more informative, we expect β_3 to be positive.

2.3 Empirical model for earnings predictions, analyst responses, and post-earnings announcement drift

We use a similar model as in Equation (1) to test whether earnings of firms with high past *LEM* predict future earnings more: For that purpose, we consider $Earnings_{i,t+4}$ as the dependent variable and regress it on current earnings and the interaction with (lagged) *LEM*, analogously to Equation (1). Similarly, to test whether analysts update more strongly after earnings surprises of high-*LEM* firms, we run regressions of changes of the mean analyst forecast for $Earnings_{i,t+4}$, on the current earnings and the interaction with (lagged) *LEM*. Finally, to test for differences in post-earnings announcement drift, we replace the left-hand side in Equation (1) by the cumulative abnormal return between day 2 and day 60 after the earnings announcement (*CAR(+2,+60)*).

3 Data and Sample

The sample event period is 1993-2014. Since we use one lagged year for the calculations of accruals we use financial data from the year 1992 or before (for some robustness tests). Data on stock returns and financial statement information are from the Center for Research in Security Prices (CRSP) and the Compustat Industrial file, respectively. The analyst forecast data are from I/B/E/S.

Our sample is constructed at the intersection of these data sets. We exclude utilities

(SIC 4900-4949) and financials (SIC: 6000-6999) from our analysis, since their financial statements tend to be different from those of other companies. After these exclusions, we obtain a main sample that consist of 42,876 (145,531) firm-year (firm-quarter) observations.

For additional analysis, we compile data on executive compensation and equity holdings from Compustat Executive Compensation (ExecuComp), which covers the 1,500 largest U.S. firms based on the index of Standard & Poor's (S&P 1500).[6] We identify CEOs following the classification in ExecuComp. We classify executives as CFOs if their executive title ("titleann") in ExecuComp contains any of the following phrases: "CFO, chief financial officer, treasurer, controller, finance, and vice president-finance" (see Jiang, Petroni, and Wang, 2010). We also collect governance data from Riskmetrics. These data are described further below.

Table 1 provides a summary of the sample construction and composition for the main analysis. All variable definitions are summarized in Table 2.

[Tables 1 and 2 about here]

3.1 Dependent Variables

Our main dependent variable is the market reaction to earnings announcements. Specifically, CAR is the three-day, cumulative abnormal stock return centered on the earnings announcement date (Compustat quarterly: rdq). Price and returns data are taken from CRSP. The event window [-1,1] is the earnings announcement period. The residuals from the market model are used as abnormal returns. The estimation window for the market parameters is the period [-120, -21] prior to the earnings announcement. We require at least 60 observations in this time period. The value-weighted stock market return from CRSP serves as our benchmark return.

[6] In line with Jiang, Petroni, and Wang (2010) we start to calculate the incentive ratio in 1993 because the ExecuComp coverage for the year 1992 is not complete (Aggarwal and Samwick, 2003).

To compute *CAR(+2,+60)*, we calculate daily excess stock returns following Daniel, Grinblatt, Titman and Wermers (1997) (DGTW). DGTW provide monthly portfolio returns. We apply their methodology to daily returns to compute DGTW characteristic-adjusted stock returns.

For the informativeness of the earnings announcement we use three proxies proposed by in the literature. The first measure is the absolute value of the cumulative absolute return ($|CAR|$) during the earnings announcement period. The second measure is the news ratio ($NEWS\_RATIO$) of the company's earnings announcement, which is defined as the fraction of cumulative returns during the earnings announcement period relative to the cumulative returns in the estimation period. We follow prior literature such as Roychowdhury and Sletten (2012) and use the log value of the estimated variable in our empirical tests. The third measure is abnormal variance ($AVAR$) as used by Landsman and Maydew (2002). The measure compares the volatility within the announcement period to the volatility in the estimation period. For all three measures a higher number indicates a more informative earnings announcement.

In our earnings persistence analysis we use the actual earnings ($EARNINGS$) from I/B/E/S in quarter t and in t+4. For the analysis of analyst forecast changes, we compute the difference in the earnings forecast for quarter t+4 minus the forecast for quarter t, using for each case the latest mean analyst forecast prior to the respective earnings announcement.

All variables are winsorized at the 1 and the 99 percent levels to mitigate the effects of outliers.

3.2 Earnings surprise

Unexpected earnings (UE) are calculated as the value of actual quarterly earnings minus the most recent mean forecasted quarterly earnings (from I/B/E/S), in percent of the stock price 5 days prior to the announcement.

3.3 Earnings Management

We use *discretionary* accruals models to detect the level of earnings management. The basic idea of these models is to find companies with unusual high or low accruals that are not explained by the economic circumstances such as earnings growth. Thus, we calculate the "normal" level of accruals and classify the residuals (actual value - predicted value) as discretionary accruals. We calculate the total accruals from the cash flow statement (Hribar and Collins, 2002). We choose this approach because it addresses the problem of measuring earning management around non-operating events such as mergers and acquisitions, divestitures, and foreign currency translations. Specifically, total accruals ($TA_{i,t}$) for company i in year t are calculated as:

$$TA_{i,t} = \frac{EBXI_{i,t} - CFO_{CF,i,t}}{ASSETS_{i,t-1}}, \tag{3}$$

where:

$EBXI$ = Earnings before extraordinary items and discontinued operations (Compustat: ibc)

CFO_{CF} = Operating cash flows (from continuing operations) from the statement of cash flows (Compustat: oancf-xidoc).

$ASSETS$ = Total assets (Compustat: at).

In the second step, we estimate the following four models for each industry-year com-

bination with at least 20 observations, where industry is defined as the first two digits of the SIC code: (1) The Jones model (Jones, 1991); (2) the modified Jones model (Dechow, Sloan, and Sweeney, 1995); (3) the performance-adjusted model; and (4) the performance-matched model Kothari, Leone, and Wasley (2005). We describe the models in more detail in the Supplementary Appendix.

3.3.1 Low Earnings Management

We construct our basic measure of Low Earnings Management (LEM) in three steps. First, we assign percentile values for all our four discretionary accruals models individually based on the absolute value of discretionary accruals. Like Bergstresser and Philippon (2006), we use absolute values since we want to capture upwards and downwards earnings management. Second, we build an earnings management score as the average for each company based on the four percentile ranks. Third, we subtract this earnings management score from 1:

$$LEM_{i,t} = 1 - \sum_{i=1}^{4} \frac{EM\_SCORE_{i,t}}{4}, \tag{4}$$

where EM_SCORE is the average percentile rank of the four absolute discretionary accruals models. In robustness checks, we also consider each of the four models separately.

Given that we build our variable LEM based on the average percentile of the earnings management model (0.01 to 1.00), the variable contains values between 0 and 0.99. Companies with the highest LEM are assigned a value of 0.99, whereas the companies with the highest earnings management scores and therefore lowest LEM scores have a value of 0.

3.3.2 Short-Term, Track Record and "Style" Measures of Low Earnings Management

We use three main timing conventions for *LEM* (as well as additional variations in robustness checks). First, in the baseline specification, we use the lagged value of *LEM* to predict current earnings responses. Second, we also measure *LEM* over a longer time period (LEM_{LT}), using the average rank of *LEM* over a 3-year window. This measure takes into account that the company established a track record of low earnings management over the past years. Thus, to predict earnings responses in year t, we use *LEM* in the years $t-3$, $t-2$, and $t-1$.

Third, as an additional *LEM* measure we extract the firm fixed effect of *LEM*. We achieve this by running a regression of *LEM* on a number of firm characteristics (*SIZE, BTM, UE, LEVERAGE, LOSS, LAG, SD*, see below for the definition). Extracting the firm fixed effects from this regression yields LEM_{FIRM}. This quantity resembles the average *LEM* over the entire sample period of the firm, controlling for potential determinants of earnings management. This quantity can be thought of as the *LEM* "style" of a company.[7] We conduct the same approach for CEO and CFO fixed effects, respectively, generating LEM_{CEO} and LEM_{CFO}. These quantities vary within firms when there is a managerial turnover.[8]

[7] This method partially uses forward-looking information. The presumption is that the market has sophisticated ways of estimating a manager's innate financial reporting quality that end up matching the fixed effect that the econometrician can estimate. We do not construct a trading strategy and, therefore, are not so concerned about look-ahead bias.

[8] Note that these quantities do not necessarily identify managerial "style" in disclosures as it is possible that upon the occurrence of turnover the firm's earnings management policy also changes. We interpret the manager fixed effects as indicating the typical earnings management during the tenure of a manager. Inferences regarding managerial style in capital market communication are possible when managers switch from one firm to another (Bamber, Jiang, and Wang, 2010) or when observing differences in presentations and answers on conference calls (Dzieliński, Wagner, and Zeckhauser, 2017), for example.

3.4 Basic Controls

We include the following control variables: *SIZE*, the log of market value; *BTM*, the book-to-market-ratio; *LEVERAGE*, the book leverage; *LOSS*, an indicator variable (=1 if the actual quarterly earnings are negative); *LAG*, the number of days between the financial end of the quarter and the earnings release; and *SD*, the standard deviation of monthly stock returns (in %) calculated over the last 5 years.[9] Additional controls are discussed in the robustness section.

3.5 Executive Compensation

We measure equity-based compensation incentives using the incentive ratio (*IR*) introduced in Bergstresser and Philippon (2006). As shown in Equation 5, *IR* is defined as the one percent wealth impact for the stock options and shares granted, normalized by the one percent wealth impact for the stock options and shares granted as well as the fixed salary and bonus:

$$IR_{i,j,t} = \frac{ONEPCT_{i,j,t}}{(ONEPCT_{i,j,t} + SALARY_{i,j,t} + BONUS_{i,j,t})}, \tag{5}$$

where:

$ONEPCT$ = The dollar change in the value of the managers stock and option holdings coming from a one percent increase in the firm's stock price,[10]

[9] If a company does not have a five-year track record, we assign the yearly standard deviation the sample median (0.35) in order to maximize sample size.

[10] This is calculated as: 0.01 * price * [shares held by executive (excluding those related to options) + delta of newly granted options *(number of newly granted options)+ delta of previously granted unexercisable options *(number of previously granted unexercisable options)+ delta of previously granted exercisable options * (number of previously granted exercisable options)]. We follow Core and Guay (2002) in calculating the sensitivities of the stock options of the executives by the aggregation of three groups of options: (1) newly granted options, (2) previously granted unexercisable options, and (3) previously granted exercisable options. To calculate the option sensitivities with respect to the change in price (delta) we use the Black and Scholes (1973) model modified by Merton (1973) to account for dividend payouts. We calculated the average dividend yield over the past 5 years from Compustat as the dividend per share (item: dvpsx) by its end-of-year stock price (item: prcc). As the risk-free rates we use the market yields on U.S. Treasury securities (with different maturities based on the length of the stock option) provided by Federal Reserve of the United States. We follow Hayes, Lemmon, and Qiu (2012) in calculating the annualized stock volatility using stock market data from the Center for Research in Security Pricing (CRSP).

$SALARY$ = Fixed salary (ExecuComp: salary),

$BONUS$ = Bonus (ExecuComp: bonus).

3.6 Corporate Governance

From Riskmetrics, we compute governance characteristics such as the Gompers, Ishii, and Metrick (2003) (GIM) *G-INDEX*, board size, and board independence. The original index of GIM is available only for the period 1990 to 2006; we use the modified version of the *G-INDEX* as in Peters and Wagner (2014). A lower value of the *G-INDEX* means fewer takeover defenses and therefore arguably proxies for better corporate governance. Board size is a somewhat ambivalent, but often-used measure. We include an indicator variable that is 1 if the majority of the board directors is independent.[11]

3.7 Other Sample Split Variables

In our cross-sectional investigation we split the sample based on variables where we would ex-ante expect to have different effects for *LEM*. In general we follow two main splits: (a) when managers have incentives to manage earnings and/or (b) the company operates in a relatively opaque environment. For both general themes we use multiple splitting variables, described in more detail in Section 4.3.

3.8 Descriptive Statistics

Table 3 presents the descriptive statistics for the variables used in our empirical analysis. Panels A, B, C and D cover the dependent, explanatory, and control and sample partition variables used in our study, respectively.

Panel A shows that the mean (median) of our main dependent variable – the cumulative abnormal return during the 3-day quarterly earnings announcement period (CAR) – is

[11] SOX became effective at the end of July 2002. However, the exchanges required the absolute compliance by the end of the year 2005. For all firms we set this variable to 1 in the years 2006-2014.

0.31% (0.21%). The standard deviation (inter-quartile range) is 10.15% (10.99%) and thus offers substantial variation. The mean and median abnormal return during the drift period is *CAR(2,60)* is 0.20% and 0.19%, respectively. However, the standard deviation for the drift period is larger compared to the earnings announcement period. The three earnings informativeness measures are: (1) *AVAR*, (2) *NEWS_RATIO*, and (3) *Abs(CAR)*. The mean (median) abnormal volatility in earnings announcement window compared to the estimation period is 3.55 (1.72) suggesting an on average higher volatility during the earnings announcement period than during the estimation period. This value is somewhat lower than the average *AVAR* of 5.33 in Landsman and Maydew (2002). The mean (median) value of the variable *NEWS_RATIO* is 3.59 (3.61). This is similar to the mean of 3.49 in Roychowdhury and Sletten (2012). The non-directional measure *Abs(CAR)* has a mean (median) of 7.62 (5.50). The mean actual EPS (*EARNINGS*) is 0.28 and the average expected EPS of financial analyst is (*MEANEST*) is 0.27. The standard deviation for the actual earnings are slightly higher than for the analyst forecasts (0.45 vs. 0.41).

Panel B provides the descriptive statistics for low earnings management (*LEM*). The mean (median) *LEM* is 0.51 (0.54).[12] The standard deviation (inter-quartile range) is 0.24 (0.38). For LEM_{LT}, which is the average *LEM* over the past three year, the sample size reduces, due to the additional data requirements, to 92,853 firm-quarters. The standard deviation (inter-quartile range) of LEM_{LT} is 0.24 (0.23). The average LEM_{FIRM}, LEM_{CEO}, and LEM_{CFO} are 0.00 (by construction). The standard deviation is between 0.11 up to 0.15 depending on the *LEM* measure.

Panel C shows the summary statistics for the main control variables. The mean (median) value for unexpected earnings (scaled by stock price) is -0.01% (0.03%), implying that most firms have positive earnings surprises, but some have strongly negative earnings

[12]Recall that to build *LEM* we rank the accrual measures from percentile 1-100 and assign them values from 0.01-1.00 depending on their percentile rank. Then we subtract from 1 the average of the 4 earnings management scores. That is the reason why we do not get exactly 0.50 as the mean *LEM*.

surprises. In our sample around 14% of the companies incurred a *LOSS* in the quarter. The average lag between the earnings announcement and the end of the financial quarter (*LAG*) is 30.57 days. The monthly stock return standard deviation *SD* is 11.90%. The mean (median) incentive ratio (*IR*) for the CEOs is 0.23 (0.15), in line with Bergstresser and Philippon (2006). The mean (median) incentive ratio (*IR*) for the CFO is smaller: 0.10 (0.06). The average (median) board size is 8.76 (9).[13] 91 % of board directors have a majority of independent directors.[14]

Panel D presents the summary statistics for the split variables. The average fraction of intangible assets on the total assets of the balance sheet (*INTANGIBLES*) is 0.18. 26% of our sample are firm-quarters from *HITECH*-industries.[15] In our sample the average analyst coverage (*ANALYST_COVERAGE*) is 7.81.

In a correlation table available on request we find the following: As expected, larger firms have lower levels of earnings management. Also as expected, *LEM* is negatively correlated with *IR_CEO*, implying that managers with stronger incentives to increase the stock price tend to engage in more earnings misrepresentation. *LEM* is also negatively correlated *LOSS*, *LAG*, and *SD*. Our main dependent variable of interest (*CAR*) is, naturally, positively correlated with *UE*. None of the correlations with the other control variables is particularly large. Furthermore, we find significant, but far from perfect correlations among the three earnings informativeness measures *AVAR*, *NEWS_RATIO*, and *Abs(CAR)*. This suggests that these three measures capture related, but distinct elements of earnings informativeness.

[Table 3 about here]

[13] In line with previous research such as Knyazeva, Knyazeva, and Masulis (2013) we use the log of the number of directors on the board.

[14] Before 2005 the average was 0.79.

[15] In line with previous literature such as Baginski, Hassell, and Kimbrough (2004) we classify the following 4-SIC digit industries as *HITECH*-industries: 2833-2836; 3570-3577; 3600-3674; 7371-7379; 8731-8734.

4 Empirical Results

4.1 Baseline Results: Low Earnings Management and Earnings Response

Hypothesis 1 holds that the market reaction to a positive earnings surprises (that is, the earnings response coefficient) is larger for firms with a stronger track record of low levels of earnings management. Table 4 summarizes the baseline results speaking to this hypothesis, reporting estimation results of panel regression models according to Equation 1. Our main interest is in the regression coefficient β_3 on the interaction of past lack of earnings management (LEM) and the current earnings surprise (UE).

Column (1) shows that, as is well-known, on average the stock market reacts to earnings surprises. On average, a one-percentage point increase in the earnings surprise is associated with a 2.09% higher CAR.

In column (2) we add our main variable of interest, LEM, and its interaction with unexpected earnings. The interaction is highly significant with a coefficient of 0.90 and with a t-statistic of 4.89. This implies that the market reacts more strongly to earnings news for companies with a track-record of high LEM in the past. Note that this regression also includes, besides quarter and industry fixed effects, a number of standard control variables in earnings announcement return regressions: $SIZE$, BTM, $LEVERAGE$, $LOSS$, LAG, SD.

In column (3) we add the incentive ratio of the CEO (IR_CEO) as an additional control variable. The sample size decreases because we have incentives only for the Execucomp sample, approximately the S&P 1500 firms. The coefficient on LEM^*UE does not alter substantively (0.92, t: 2.26).

One potential concern is that, despite controlling for a broad range of control variables, there are still other, omitted variables or unobservable factors that may affect both LEM

and earnings response coefficients. To check on this concern to some extent, in column (4), we include firm fixed effects, thus controlling for time-invariant unobserved heterogeneity.[16] Strikingly, even including firm fixed effects does not alter our estimated coefficient on *LEM*UE* substantially (0.84, t: 1.97). In a robustness analysis in Section 4.7, we show that the results continue to hold when including (a) executive fixed effects for CEO and CFO, or (b) industry-quarter or (c) firm-year fixed effects.

Next, in columns (5) and (6) we additionally control for corporate governance with variables such as the number of anti-takeover defenses and board size. Adding corporate governance variables to the regression reduces the sample size further due to data availability. With these variables included, the estimated coefficient on *LEM*UE* actually increases to 1.65 and 1.55, respectively (t: 3.48 and 3.00).

In columns (7) and (8) we interact *all* explanatory variables (governance and firm characteristics) with the unexpected earnings *UE* to control for the possibility that observed ERC variation is driven by these factors, rather than by *LEM*. Our main results are robust to this inclusion.

Further checks show that the results remain robust when including other control variables (which further reduces the sample size). Section 4.7 documents, in particular, that the results hold when controlling for proxies for contemporaneous earnings management and information uncertainty (and their interaction with the earnings surprise). Moreover, we conduct the analysis for each individual earnings management model and find that the results are not sensitive to the choice of model (results available on request).

The quantitative impact of *LEM* on earnings response coefficients is sizable. Consider the specification in column (3), using the basic controls on the large sample, and a company

[16] For example, "Big N" auditor engagement has been shown to be associated with a higher in ERC (Teoh and Wong, 1993) and lower (discretionary) accruals in the cross-section (Becker et al., 1998). Because, at least among the S&P1500, essentially all firms have a "Big N" auditor, including a fixed effect removes the impact of Big N auditors.

that moves from the first to the third quartile of *LEM*. This interquartile range (IQR) move corresponds to a change of 0.38 in *LEM*. Such a company experiences an additional (absolute) impact of the earnings surprise of $0.38 * 0.92 = 0.34$, which is around 15% of the main *UE* coefficient. In specification (6), which includes the full range of controls and firm fixed effects, the effect size is somewhat larger, $0.38 * 1.55 = 0.59$, which is about 23% of the main *UE* coefficient. For ease of comparison, throughout the paper, we report this 'IQR-impact' at the bottom of each table. This quantity is the effect on the earnings response of an LEM inter-quartile range increase, expressed in percent of the main *UE* effect.

The main take-away from Table 4 is the following: When firms surprise investors with earnings that exceed or fall short of the analyst consensus forecast, the market reacts more strongly to the earnings announcements of firms that previously had reported with little earnings management more than to those of firms with a pronounced earnings management history. This means a more pronounced reaction to good news but also a more pronounced negative reaction to bad news. In sum, these results support *Hypothesis 1.*

[Table 4 about here]

4.2 Low Earnings Management Track Record

In this section we explore the role of sustained resistance to earnings management. We begin by using the average LEM of the past 3 years, LEM_{LT}. A company that scores highly on LEM_{LT} has exhibited a multi-year track record of little earnings management. An important benefit of using this variable is that it is arguably less subject to reversal of accruals or other factors that may influence more short-term measures of LEM. We report the results in Table 5 in column (1). The sample size decreases due to the additional data requirements. The coefficient on the interaction between LEM_{LT} and the earnings

surprise is 2.28 with a t-statistic of 2.65. Thus, a longer-run track record induces a stronger response to news. Again, the effect is sizable, as shown by the implied 26% IQR-impact.

Columns (2) to (4) show the results when using the three unique measures of the financial reporting quality "style" of a company or the long-run average LEM of a manager as captured by the fixed-effects measures. The coefficients on the interaction terms of the earnings surprise and each of these "deep" LEM measures are also highly significantly positive. The economic effects reveal that the IQR-impact is the highest for the LEM_{FIRM} measure with 22% followed by the LEM_{CFO} measure with 18% and LEM_{CEO} measure with 16%. Overall, these results further support *Hypothesis 1*. The stock market reacts strongly to news from firms and managers with a consistent track record of high past financial reporting quality.

[Table 5 about here]

4.3 When Low Earnings Management Matters Most: Resistance-Against-Temptations As a Signal

So far, we have found that high financial reporting quality in the past increases earnings responses in the future. This is consistent with the idea that the market assesses firms that engage in less earnings management as more trustworthy. However, conceivably, the market is simply less certain about the meaning of earnings of a firm with large past earnings management. Moreover, despite the large range of controls and fixed effects, we cannot be sure that we have identified a causal effect of past LEM on current earnings responses. This identification issue is extremely challenging. What we can do is to investigate whether the effects differ across firms in predictable ways. In this section, we therefore ask: Does the market take into account differential incentives and opportunities of the managers to alter news they share with the market? We examine this question by hypothesizing that

the market should pay particular attention to *LEM* when (a) managers have incentives to manage earnings and/or when (b) the company operates in a relatively opaque environment. The idea is that when it is (a) in the interest of management and (b) easy to implement low *LEM*, the market should particularly trust firms that do exhibit high *LEM*. *Hypothesis 2*, therefore, holds that the difference in the earnings response as a function of *LEM* is more pronounced where managers in the past had more incentives or opportunities to manage earnings more. These tests are, of course, still not definitive proof of causality, but far-from-parsimonious stories are required to explain the overall set of results.

To test *Hypothesis 2*, in the following two sub-sections we investigate the heterogeneous effects of *LEM* on earnings response coefficients. We conduct cross-sectional partitions based on company characteristics in the year before the earnings announcement (that is, based on company characteristics in the year when we measure *LEM*). In the case of economic incentives, we measure them at the beginning of the year before the earnings announcement (that is, in the year before we measure *LEM*, using the same timing as in Bergstresser and Philippon (2006)). For parsimony, we use this timing convention for all regressions, even though this involves some measurement error in the case of the longer-term *LEM*-measures.

We use eight different sample split criteria. The sample split variables have relatively low correlation (except the two incentive variables). Thus, we consider largely independent dimensions, offering the data ample opportunity to prove *Hypothesis 2* wrong.

4.3.1 Incentives

We first ask: When evaluating the meaning of past *LEM*, do shareholders take into account that managers had differential incentives to engage in earnings management? Experimental evidence shows that an agent's intrinsic commitment to honesty can be inferred from

his/her resistance against trading off economic benefits against honesty. Specifically, in a laboratory experiment, Gibson, Sohn, Tanner, and Wagner (2017) find that investors infer CEO preferences for truthfulness to be stronger when a CEO does not engage in earnings management when economic incentives to do so are present. This is in turn consistent with Gibson, Tanner, and Wagner (2013) who show experimentally that individuals with stronger intrinsic commitment to truthfulness react less to economic incentives to misrepresent the truth. They use a survey to directly measure this commitment ("protected values"). Of course, such survey data are unfortunately not available for a large sample of managers. Thus, the market may use a revealed preference approach, gleaning information regarding the commitment to truthfulness of managers from their resistance against economic incentives to misrepresent earnings.

To examine the relevance of this idea in real-world data, we split the sample according to the incentives to increase the stock price (the incentive ratio). Panels A and B of Table 6 consider the role of monetary incentives for the CEO and CFO, respectively. We find that when CEO and CFO incentives to increase the stock price were strong, *LEM* is particularly important in explaining variation of shareholders to earnings announcements. This can be seen from the significant interaction terms in columns (1) to (3). In other words, managers who had resisted the (monetary) temptation to engage in earnings management in the past are perceived to deliver more informative earnings news. Interestingly, if the CFO incentives are high, the CEO-specific *LEM* correlates only weakly with the earnings response. By contrast, in the low-incentive sample, shown in columns (4) to (6), past *LEM* does not explain the earnings response.

Not all incentives are monetary. Social norms and peer pressure also guide human action. The recent finance literature provides several examples of peer effects and firm-cultural effects. For example, there are peer effects and leader-follower-effects in earn-

ings management (Bratten, Payne, and Thomas, 2016; Charles, Schmid, and von Meyerinck, 2017), and geographical location matters greatly for financial misconduct (Grullon, Kanatas, and Weston, 2010; McGuire, Omer, and Sharp, 2012; Parsons, Sulaeman, and Titman, 2016). Peers have been shown to affect a range of financial outcomes, such as stock market activity (Ivković and Weisbenner, 2007), CEO compensation and investment (Shue, 2013; Bottazzi, Da Rin, and Hellmann, 2016), entrepreneurship (Lerner and Malmendier, 2013) and even personal risk aversion (Ahern, Duchin, and Shumway, 2014). Experimental work shows that the characteristics that support resistance against economic incentives to misrepresent the truth also reduce susceptibility to "bad" (but also "good") social norms (Gibson, Tanner, and Wagner, 2017). In Panel C of Table 6, we therefore split the sample into observations in which *LEM* was below or above the median in a given state-industry combination (where the location of a firm is defined by its headquarters). We find strong evidence that past *LEM* increases future earnings responses particularly where peer firms in the same industry and state engage in more earnings management. Thus, when managers resist social norms of low *LEM*, this can be informative to investors.

Finally, investors may worry that less able managers have incentives to misrepresent earnings (Demerjian, Lev, Lewis, and McVay, 2013). Consistent with this idea, Panel D of Table 6 shows that investors pay more attention to past *LEM* when evaluating the announcements of companies of less able managers.

In sum, when managers would have had more incentives to misrepresent earnings in the past, the market more strongly responds to future earnings surprises when managers in fact engaged in little earnings management in the past. It appears that resisting temptations builds credibility.

[Table 6 about here]

4.3.2 Opaqueness and Opportunities for Earnings Management

In Table 7, we investigate variation across firms in terms of opaqueness of firms – that is, in terms of the information needs that investors have – and in terms of differences in opportunities to engage in earnings management. Panel A shows that *LEM* matters especially strongly for earnings announcements reactions in firms with a high fraction of intangible assets.[17] Panel B demonstrates that the same is true for high-tech firms, whose business is arguably harder to understand than that of, say, manufacturing companies. Furthermore, in Panel C we observe significant interaction coefficients for firms that have a higher than median reporting lag (number of days from fiscal period end and the earnings announcement reaction). Panel D provide empirical evidence that the announcement effect is larger for firms that are less followed by financial analysts when they demonstrated higher financial reporting quality in the past. This suggests that when shareholders know that managers are relatively poorly monitored by analysts, but still did not engage in earnings management, investors attribute higher credibility to management.[18]

In sum, these results show that firms where investors are likely to have a harder time understanding the true economic situation of a company, where opportunities for deceptive communication by companies is more pronounced, and where investors are likely to have a concern regarding the reliability of earnings announcement information, a track record of high *LEM* results in stronger responses to earnings surprises.

[Table 7 about here]

[17] In line with for example Borisov, Goldman, and Gupta (2015) we use intangible assets divided by total assets as our proxy and then split the sample based on the yearly median value.

[18] *LEM* also has a higher impact on the earnings response in smaller firms.

4.4 Earnings Informativeness

Another perspective on the greater impact of earnings surprises in firms with lower past earnings management is provided in Table 8. This table presents regression results for Equation 2, using measures of earnings informativeness as the dependent variable. In each of the three panels, we estimate four models. We begin with a regression in column (1), which only includes industry and quarter fixed effects and a set of standard controls such as *SIZE*, *BTM*, *LEVERAGE*, *LOSS*, *LAG* and *SD*. In column (2) we add the set of company corporate governance control variables and the incentive ratio. In columns (3) and (4) we include firm fixed effects.

In Panel A, the dependent variable is *AVAR*, in Panel B it is the *NEWS_RATIO* and in Panel C it is *Abs(CAR)*. The main point to observe is that the coefficients on *LEM*Abs(UE)* are positive and statistically significant from zero for 10 of the 12 models. This again provides evidence that the market reacts more to earnings surprises if the company has a track-record of resistance against earnings management.

Specifically, we observe in Panel A that the volatility during the earnings announcement compared to the estimation period is more pronounced for *LEM*-companies when they communicate earnings surprises. In the same vein, the results in Panel B suggest that companies with earnings surprises have more pronounced returns during the announcement period compared to the estimation period if they have track-record of high *LEM* in the past year. In Panel C the effect of *LEM* itself is significantly negative, which indicates that on average firms with high *LEM* in the past have smaller absolute stock price reactions. However, the reaction to earnings surprises is larger for high *LEM*-companies, as indicated by the positive interaction term.

We conclude from these results that the market reacts in a more pronounced fashion to earnings surprises of high *LEM*-companies.

[Table 8 about here]

4.5 Earnings Persistence and Analyst Revisions

The results so far intuitively suggest that the market discounts the importance of an earnings announcement of a low-*LEM* firm. The most straightforward explanation would be if the earnings signal of those firms is less informative about the future. In Table 9 we test this idea. We regress the 4 quarter-ahead earnings on current earnings and an interaction between *LEM* and actual earnings, and we also investigate how unexpected earnings (depending on the *LEM* level) serve as signal for financial analysts in adapting their forecasts in the future. Columns (1) and (3) include industry fixed effects, whereas columns (2) and (4) control for firm fixed effects.

The first two columns show that, as expected, actual earnings are highly correlated with 4-quarter ahead actual earnings. More interestingly, we see that the interaction coefficient of our main *LEM* measure with unexpected earnings is positive. In other words, in firms with high *LEM*, earnings today serve as stronger long-term signals for earnings in the future. Consequently, it makes sense for investors to react more strongly to earnings reported by such a firm.

These results are consistent with and extend prior literature. For example, Li (2008) finds that earnings persistence is higher for firms with better readable and shorter 10-K filings. Dichev and Tang (2009) document that earnings are more persistent for firms with lower total accruals.

In column (3) and (4), we look at the change in the consensus analyst earnings forecast for 4 quarters ahead. In both regression models we observe a positive interaction term between the unexpected earnings and the low earnings management proxy, meaning that financial analysts increase their forecast for the firm more in response to an earnings surprise

if the *LEM* was high in the past. While one of the two coefficients is just below conventional levels, when using median analyst forecast changes, interaction terms in both regressions are significant (not tabulated).

Taken together, we interpret these results as an explanation for why the stock market reacts more to earnings announcements of firms with a higher *LEM*: their earnings are more informative for the future.

[Table 9 about here]

4.6 Post-Earnings Announcement Drift

Finally, we investigate the effect of *LEM* on post-earnings announcement drift, PEAD. Table 10 reports the results. In column (1) we show the results for a simple OLS model. In column (2) we include quarter and industry fixed effects and in column (3) we include quarter and firm fixed effects. For all three specifications we observe that *UE* has a positive coefficient, suggesting a positive (negative) drift with firms with positive (negative) earnings surprise, consistent with prior literature. The interaction effect of *UE* and *LEM* is positive, but not statistically significant. In other words, the drift of high- and low-*LEM* firms is similar. If we had found that in the drift, the initial reaction reverses (that is if we had found a negative and significant interaction effect) that would have indicated that investors over-react to earnings of high-*LEM* companies. If we had found a positive and significant interaction, this would imply that investors under-react to earnings of low-*LEM*. We find that the PEAD is about the same, suggesting, consistent with the results in Section 4.5, that earnings of low-*LEM* firms actually convey less information than do earnings of high-*LEM* firms.[19]

[19] We caution that long-term CARs are notoriously difficult to predict. The non-significance of the *UE*LEM* interaction can, therefore, also be due to the noisiness of these long-run returns. In untabulated tests we have further winsorized or trimmed the long-term CAR at the 5th and 95th percentiles. The results do not differ.

[Table 10 about here]

4.7 Robustness

We conducted a large battery of robustness checks. Two important sets of checks are summarized in Table 11 for our main analysis. In Panel A we include other aspects of earnings in our regression and interact them with *UE*. In Panel B we investigate the robustness of our main results with respect to two-way clustering and other types of fixed effects.

In Panel A in columns (1) and (2) we find that our results are robust to the inclusion of contemporary absolute total accruals (scaled by total assets), which controls for the extent of contemporaneous earnings management. The results show that while the earnings response is indeed smaller for firms with currently high accrual levels, our results regarding the role of past *LEM* are not affected. In the same vein, we control for current-year *LEM* in columns (3) and (4). Both *LEM* measures are statistically significant positive determinants of the earnings response, but the effect of past *LEM* remains important. Third, in light of the findings of Francis, Lafond, Olsson, and Schipper (2007) we additionally control for differences in information uncertainty. We follow their approach. Thus, we first estimate the Dechow and Dichev (2002) accruals models. Then we use the residuals of the industry-year based accrual model and calculate the standard deviation of the residuals over the years $t-4$ to t as a proxy for earnings quality / information uncertainty. Similar to the construction of our main *LEM* measure we rank the variable in percentiles, calling the resulting variable *IU*. When we include only *IU*, its interaction term with *UE* is significantly negative, showing that higher information uncertainty reduces the earnings response (not tabulated). The correlation of *IU* and *LEM* is -0.36, confirming that *LEM* and *IU* are different concepts. To mitigate multicollinearity issues in our regressions, we orthogonalize

LEM and *IU* and interact both variables with *UE*. Columns (5) and (6) show that when both interaction terms are included, higher *LEM* increases the earnings response as before. *IU* is then not robustly related to the earnings response.

Overall, we conclude that our results regarding the role of past earnings management remain robust also when controlling for current earnings management and other characteristics of current earnings.

In Panel B, firstly, we use two-way clustering (firm and quarter) in the spirit of Petersen (2009). Columns (1) and (2) show that our results remain robust. Secondly, we control for additional fixed effects such as: (1) industry-quarter, (2) firm-year, and (3) executive fixed effects for CEO and CFO. Our results remain stable, as shown in columns (3) to (6).

[Table 11 about here]

Furthermore, we conduct many additional robustness checks that are not tabulated to conserve space. (The summary results here all refer to the fully specified empirical model, with the largest set of control variables.) First, we use *LEM* computed with a two-year lag. Second, use an average *LEM* measure based on a two- or three-year lag of earnings management. Third, we conduct the analysis for each individual earnings management model, rather than a combination of all four. In all these variations, we find that the results remain robust. Thus, we conclude that the exact choice of earnings management model and timing for the determination of past earnings management does not noticeably affect the results.

Our primary interest in this paper is with the credibility consequences of *legal* earnings management. As a further robustness check, we constrain the sample to those firms that never received an "Accounting and Auditing Enforcement Release (*AAER*)" from the SEC. The interaction coefficients of interest are slightly lower, but the results overall remain the same. Similarly, taking out the firm-quarters when a comment letter was sent does not

change the results. For firms that did receive a comment letter in the past, *LEM* is a particularly important signal in the future. (Details are available on request.)

5 Conclusion

Existing research has demonstrated the dire consequences, to firms and to managers, of illegal behavior. By contrast, this paper focuses on legal behavior that, at least by some, is seen as problematic – and whose avoidance, therefore, may signal to investors a greater trustworthiness. Specifically, some scholars have voiced substantial concerns regarding the practice of earnings management and have suggested that it partially amounts to an act of dishonesty.[20] Others, by contrast, consider earnings management a natural business choice and emphasize the prevalence of the "good kind of earnings management."[21]

It is, therefore, an empirical question whether the market differentiates among firms with different past behavior of earnings management, and whether the market differentiates according to the potential motives for earnings management. We show that on average the market reacts more strongly to the current earnings announcements of firms with a track record of low earnings management. Our key result is that this effect occurs in firms where managers would have had high-powered incentives to manage earnings in the past and in industries with substantial managerial discretion and a high fraction of intangible assets. In sum, the market does not regard earnings management as "good" or "bad" per se, but puts this managerial decision into context.

Our results raise matters for future research. First, an interesting question is what

[20] Jensen (2005, p. 8) writes: "*[W]hen managers smooth earnings to meet market projections, they are not creating value for the firm; they are both lying and making poor decisions that destroy value....[W]hen numbers are manipulated to tell the markets what they want to hear (or what managers want them to hear) rather than the true status of the firm - it is lying.*". Similarly, Healy and Wahlen (1999, p. 368) note that accounting earnings management occurs "*[...] when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers.*"

[21] See, for example, Parfet (2000) and some CFOs cited in Graham, Harvey, and Rajgopal (2005).

happens when trust is broken, for example, when a firm with a track record of little earnings management does begin to manage earnings. Second, and more generally, the idea of resistance-against-temptations-as-a-signal may prove helpful for future empirical work seeking to identify trustworthy managers.

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A Earnings Management Models

We calibrate the discretionary accruals models on the complete available data from the CRSP/Compustat universe. We follow Bergstresser and Philippon (2006) and deflate all variables which we use to calculate the discretionary accruals by the total assets at year $t-1$ to reduce heteroscedasticity. We winsorize those variables at the top and bottom 1% of observations.

Jones Model

The Jones (1991) model calculates discretionary accruals as the absolute residuals from the regression in Equation 6:

$$TA_{i,t} = \alpha_0 + \alpha_1(1/ASSETS_{i,t-1}) + \alpha_2 \Delta SALES_{i,t} + \alpha_3 PPE_{i,t} + \epsilon_{i,t}, \tag{6}$$

where:
$\Delta SALES$ = Change in sales (Compustat: sale) scaled by lagged total assets,
PPE = Net property, plant and equipment (Compustat: ppent) scaled by total assets.

Modified Jones Model

The modified Jones model (Dechow, Sloan, and Sweeney, 1995) is presented in Equation 7. The main difference between the Jones and the modified Jones model is that the latter attributes the entire change in receivables to earnings management. Thus, the change in receivables is subtracted from the change in sales:

$$TA_{i,t} = \alpha_0 + \alpha_1(1/ASSETS_{i,t-1}) + \alpha_2(\Delta SALES_{i,t} - \Delta REC_{i,t}) + \alpha_3 PPE_{i,t} + \epsilon_{i,t}, \tag{7}$$

where:
ΔREC = Change in receivables (Compustat: rect).

Performance-Adjusted and Matched Models

Finally, we also use the two earnings management models developed by Kothari, Leone, and Wasley (2005): The regression-based approach is presented in Equation 8. This model

includes the past return on assets (ROA) as an additional control variable:

$$TA_{i,t} = \alpha_0 + \alpha_1(1/ASSETS_{i,t-1}) + \alpha_2 \Delta SALES_{i,t} + \alpha_3 PPE_{i,t} + \alpha_4 ROA_{i,t-1} + \epsilon_{i,t}, \quad (8)$$

where:

ROA = Return on asset calculated as net income divided by total assets (Compustat: ni/at).[22]

The performance-matched approach calculates discretionary accruals as the difference of the Jones model discretionary accruals of two performance-matched companies. We calculate first the Jones model and sort the companies in each industry by their past return on assets. The difference between the matched companies' discretionary accruals is the performance-matched discretionary accruals.

[22] Kothari, Leone, and Wasley (2005, p. 174) argue that they prefer to use net income rather than use in addition net-of-tax interest expense to "*avoid potential problems associated with estimating a tax rate.*"

Table 1: Sample Composition

This table presents the sample composition. In Panel A we show the industry distribution and in Panel B the calendar year distribution.

Panel A: Industry Distribution

Industry	Firm-quarters	Pct. %	Industry	Firm-quarters	Pct. %
Metal, Mining	1,087	0.75	Trucking & Warehousing	1,672	1.15
Oil & Gas Extraction	7,522	5.17	Water Transportation	1,039	0.71
General Building Contractors	702	0.48	Transportation by Air	1,289	0.89
Heavy Construction, Except Building	45	0.03	Communications	5,570	3.83
Food & Kindred Products	4,314	2.96	Electric, Gas, & Sanitary Services	983	0.68
Textile Mill Products	229	0.16	Wholesale Trade - Durable Goods	3,823	2.63
Apparel & Other Textile Products	1,728	1.19	Wholesale Trade - Nondurable Goods	2,060	1.42
Lumber & Wood Products	154	0.11	General Merchandise Stores	995	0.68
Furniture & Fixtures	1,124	0.77	Food Stores	746	0.51
Paper & Allied Products	2,103	1.45	Automative Dealers & Service Stations	451	0.31
Printing & Publishing	1,880	1.29	Apparel & Accessory Stores	2,440	1.68
Chemical & Allied Products	15,331	10.53	Eating & Drinking Places	2,924	2.01
Petroleum & Coal Products	1,665	1.14	Miscellaneous Retail	3,378	2.32
Rubber & Miscellaneous Plastics Products	1,558	1.07	Hotels & Other Lodging Places	173	0.12
Stone, Clay, & Glass Products	651	0.45	Business Services	20,065	13.79
Primary Metal Industries	2,832	1.95	Motion Pictures	140	0.10
Fabricated Metal Products	2,165	1.49	Amusement & Recreation Services	1,797	1.23
Industrial Machinery & Equipment	11,837	8.13	Health Services	3,104	2.13
Electronic & Other Electric Equipment	14,416	9.91	Educational Services	330	0.23
Transportation Equipment	4,844	3.33	Engineering & Management Services	3,190	2.19
Instruments & Related Products	11,795	8.10	*Total firm-quarters*	145,531	100.00
Miscellaneous Manufacturing Industries	1,380	0.95	*Total firm-years*	42,876	

Panel B: Calender Year Distribution

Year	Firm-quarters	Pct. %	Year	Firm-quarters	Pct. %
1993	4,523	3.11	2004	7,178	4.93
1994	5,218	3.59	2005	7,199	4.95
1995	5,917	4.07	2006	7,525	5.17
1996	6,609	4.54	2007	7,264	4.99
1997	6,895	4.74	2008	6,635	4.56
1998	7,169	4.93	2009	6,730	4.62
1999	7,144	4.91	2010	7,311	5.02
2000	6,476	4.45	2011	7,019	4.82
2001	6,204	4.26	2012	6,764	4.65
2002	6,230	4.28	2013	7,182	4.94
2003	6,655	4.57	2014	5,684	3.91
			Total	145,531	100.00

Table 2: Variables Definition

Variable	Description	Source
Dependent Variables		
CAR	Cumulative abnormal return during the event period [-1,+1]	CRSP, Compustat
CAR(+2,+60)	Cumulative abnormal return after the event period [+2,+60]. We calculate daily excess stock returns following Daniel, Grinblatt, Titman and Wermers (1997) (DGTW). DGTW provide monthly portfolio returns. We apply their methodology to daily returns to compute DGTW characteristic-adjusted stock returns	CRSP, Compustat
AVAR	Abnormal volatility in earnings announcement window compared to the estimation period	CRSP, Compustat
NEWS_RATIO	Comparison of returns during the earnings announcement period with the return outside the period as log value	CRSP, Compustat
Abs(CAR)	Absolute value of cumulative abnormal return during the earnings announcement period	CRSP, Compustat
EARNINGS	(Actual) earnings	I/B/E/S
MEANEST	Most recent mean EPS forecast by financial analysts before the earnings announcement	I/B/E/S
Earnings Management		
EM_SCORE	Average percentile rank of the absolute discretionary accruals of the four models	See text
LEM	Low Earnings Management calculated as: 1-*EM_SCORE*	See text
LEM_{LT}	Low Earnings Management calculated as: 3-year average of *LEM*	See text
LEM_{FIRM}	Low Earnings Management firm fixed effect	See text
LEM_{CEO} (LEM_{CFO})	Low Earnings Management CEO (CFO) fixed effects	See text
Control Variables		
UE	Quarterly earnings surprise, calculated as the difference of actual quarterly earnings minus the most recent mean forecasted quarter earnings, scaled by the stock price, expressed in %	I/B/E/S
SIZE	Logarithm of market value of equity.	Compustat
BTM	Book-to-market-ratio	Compustat
LEVERAGE	Book leverage	Compustat
LOSS	Indicator variable (=1 if the actual earnings are negative)	I/B/E/S
LAG	Number of days between the financial end of the quarter and the earnings release	Compustat
SD	Stock volatility (as standard deviation of monthly returns over the past 5 years) (in %)	CRSP
Incentives and Corporate Governance and/or Sample Split Variables		
IR_CEO (*IR_CFO*)	Incentive ratio of CEO (CFO), calculated as in Bergstresser and Philippon (2006)	ExecuComp
G-INDEX	Governance index	Riskmetrics, Peters and Wagner (2014)
MAJINDEPT	Indicator variable (=1 if the majority of board is independent)	Riskmetrics, Peters and Wagner (2014)
BOARD_SIZE	Natural logarithm of the number of board members	Riskmetrics, Peters and Wagner (2014)
I_INTANGIBLE	Indicator variable (=1 if intangibles scaled by total assets is above the median)	Compustat
INTANGIBLE	Intangibles scaled by total assets	Compustat
HITECH	Indicator variable (=1 if the firm belongs to the HITECH industry: SIC in 2833-2836; 3570-3577; 3600-3674; 7371-7379; 8731-8734)	Compustat
ANALYST_COVERAGE	Number of analyst forecasts	I/B/E/S
MANAGERIAL_ABILITY	Managerial ability score	Demerjian (2012)

Table 3: Summary Statistics

The descriptive statistics are based on 145,531 firm-quarters in the period 1993–2014. The variables are defined in Table 2. We report the number of observations, mean and standard deviation (Std.) as well as the 1st and 99th percentile and the three quartiles.

Variable	N	Mean	Std.	P1	P25	Median	P75	P99
Panel A: Dependent Variables								
CAR	145,531	0.31	10.15	-29.51	-5.17	0.24	5.82	30.04
CAR(2,60)	130,211	0.20	19.22	-53.14	-9.50	0.19	9.97	52.80
AVAR	145,531	3.55	5.18	0.07	0.77	1.72	3.89	30.09
NEWS_RATIO	145,531	3.59	1.48	-0.56	2.73	3.61	4.46	7.60
Abs(CAR)	145,531	7.62	7.13	0.09	2.45	5.50	10.51	35.89
EARNINGS	145,531	0.28	0.45	-1.20	0.07	0.21	0.42	2.16
MEANEST	145,531	0.27	0.41	-0.96	0.07	0.20	0.41	2.02
Panel B: Low Earnings Management								
LEM	145,531	0.51	0.24	0.02	0.33	0.54	0.71	0.93
LEM_{LT}	92,853	0.53	0.17	0.11	0.42	0.54	0.65	0.85
LEM_{FIRM}	71,492	0.00	0.11	-0.31	-0.07	0.01	0.08	0.23
LEM_{CEO}	65,030	0.00	0.14	-0.39	-0.08	0.01	0.10	0.28
LEM_{CFO}	56,685	0.00	0.15	-0.41	-0.08	0.02	0.11	0.30
Panel C: Control Variables								
UE	145,531	-0.01	0.76	-3.83	-0.06	0.03	0.16	2.41
SIZE	145,531	6.87	1.70	3.49	5.65	6.72	7.94	11.46
BTM	145,531	0.47	0.32	-0.12	0.25	0.40	0.62	1.65
LEVERAGE	145,531	0.47	0.22	0.06	0.30	0.47	0.62	1.13
LOSS	145,531	0.14	0.35	0.00	0.00	0.00	0.00	1.00
LAG	145,531	30.57	12.20	11.00	22.00	28.00	37.00	73.00
SD	145,531	12.80	6.21	5.67	10.10	10.10	14.03	35.39
IR_CEO	71,482	0.23	0.23	0.00	0.06	0.15	0.33	0.97
IR_CFO	59,293	0.10	0.11	0.00	0.03	0.06	0.13	0.57
G-INDEX	66,703	4.29	1.90	0.00	3.00	4.00	6.00	8.00
MAJINDEPT	93,789	0.91	0.29	0.00	1.00	1.00	1.00	1.00
BOARD_SIZE	69,958	2.17	0.27	1.61	1.95	2.20	2.40	2.77
Panel D: Additional Sample Split Variables								
INTANGIBLE	133,852	0.18	0.23	0.00	0.02	0.11	0.28	0.83
HITECH	145,531	0.26	0.44	0.00	0.00	0.00	1.00	1.00
ANALYST_COVERAGE	145,531	7.81	6.51	1.00	3.00	6.00	11.00	29.00
MANAGERIAL_ABILITY	136,432	0.01	0.14	-0.31	-0.08	0.00	0.09	0.41

Table 4: Low Earnings Management and Earnings Response

This table presents the results for Equation 1. The dependent variable is the abnormal cumulative market-adjusted stock return over the three days surrounding the earnings announcement (CAR). UE is the earnings surprise and LEM is the Low Earnings Management score in the prior year. All other variables are defined in Table 2. We estimate panel regressions. We include but do not tabulate industry or firm and quarter fixed effects in each model, as indicated in the table. We control but do not tabulate the interaction effects of UE and the control variables in column (7) and (8). To assess the quantitative effects, we compute the 'IQR-impact' reported at the bottom of the table. This quantity is the effect on the earnings response of an LEM inter-quartile range (IQR) increase, expressed in percent of the main UE effect. For example, consider column (3). A company that moves from the first to the third quartile of LEM, which is a change of 0.38 in LEM, experiences an additional (absolute) impact of the earnings surprise of $0.38 * 0.92 = 0.34$, which is around 15% of the main UE coefficient in this regression. We cluster the standard errors at the firm level. t-statistics are in parentheses below the coefficients. ***, **, and * denote significant at the 1 %, 5 %, and 10 % (two-sided) levels.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent variable:				Earnings announcement return (CAR)				
UE	2.09***	1.61***	2.34***	2.56***	2.31***	2.61***	5.88***	5.80***
	(36.66)	(16.78)	(10.54)	(10.80)	(8.88)	(8.98)	(3.63)	(3.60)
LEM		-0.07	-0.11	-0.21	-0.08	-0.09	0.01	-0.01
		(-0.53)	(-0.60)	(-1.05)	(-0.38)	(-0.40)	(0.07)	(-0.06)
*LEM*UE*		0.90***	0.92**	0.84**	1.65***	1.55***	1.35***	1.37***
		(4.89)	(2.26)	(1.97)	(3.48)	(3.00)	(2.77)	(2.82)
IR_CEO			0.20	-0.57**	0.07	-0.61*	0.09	0.18
			(1.09)	(-2.07)	(0.33)	(-1.88)	(0.39)	(0.85)
G-INDEX					0.01	-0.02	0.01	0.01
					(0.36)	(-0.48)	(0.29)	(0.35)
MAJINDEPT					-0.06	-0.04	-0.06	-0.06
					(-0.39)	(-0.20)	(-0.38)	(-0.38)
BOARD_SIZE					-1.05***	-1.62***	-1.06***	-1.07***
					(-4.62)	(-4.31)	(-4.61)	(-4.77)
SIZE		0.23***	0.20***	1.33***	0.25***	1.53***	0.26***	0.21***
		(11.14)	(5.99)	(12.12)	(5.80)	(11.29)	(5.91)	(5.09)
BTM		1.68***	1.53***	4.49***	1.61***	5.10***	1.39***	1.11***
		(15.75)	(9.12)	(15.78)	(7.97)	(14.63)	(6.88)	(5.80)
LEVERAGE		0.37***	0.22	2.66***	0.32	2.81***	0.18	-0.06
		(2.60)	(1.03)	(6.06)	(1.24)	(5.29)	(0.68)	(-0.24)
LOSS		-0.50***	-0.26	0.20	-0.20	0.31	-0.85***	-0.88***
		(-5.28)	(-1.45)	(0.98)	(-0.93)	(1.32)	(-4.09)	(-4.35)
LAG		-0.01*	-0.00	-0.00	-0.00	-0.00	-0.01	-0.01
		(-1.65)	(-0.94)	(-0.05)	(-0.86)	(-0.05)	(-1.28)	(-1.45)
SD		-0.02***	-0.02	0.01	-0.03**	0.01	-0.03**	-0.03***
		(-4.09)	(-1.52)	(1.09)	(-2.31)	(0.75)	(-2.42)	(-2.63)
Constant	0.06	-2.17***	-2.17***	-11.56***	-0.46	-12.82***	-0.46	1.06**
	(0.25)	(-5.92)	(-3.87)	(-11.23)	(-0.65)	(-7.97)	(-0.65)	(1.97)
Observations	145,531	145,531	71,512	71,512	55,150	55,150	55,150	55,150
R^2	0.025	0.029	0.030	0.037	0.030	0.038	0.040	0.038
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry or Firm FE	Industry	Industry	Industry	Firm	Industry	Firm	Industry	Firm
Interactions with *UE*	no	no	no	no	no	no	yes	yes
IQR-impact		21%	15%	13%	27%	23%	9%	9%

Table 5: Long-term Low Earnings Management Score and Earnings Response

This table presents the results for Equation 1. The dependent variable is the abnormal cumulative market-adjusted stock return over the three days surrounding the earnings announcement (CAR). UE is the earnings surprise. Results for four different LEM proxies are reported. In column (1), we use the earnings management measure over the last 3 years, LEM_{LT}. In column (2) we use LEM_{FIRM}, and in columns (3) and (4) we use the CEO and CFO fixed effects of LEM, respectively. All other variables are defined in Table 2. We estimate panel regressions. We include but do not tabulate industry and quarter fixed effects in each model. The 'IQR-impact' reported at the bottom of the table is the effect on the earnings response of an LEM inter-quartile range (IQR) increase, expressed in percent of the main UE effect. See the caption of Table 4 for an example. We cluster the standard errors at the firm level. t-statistics are in parentheses below the coefficients. ***, **, and * denote significant at the 1 %, 5 %, and 10 % (two-sided) levels.

	(1)	(2)	(3)	(4)
Dependent variable:		Earnings announcement return (CAR)		
LEM Measure:	LEM_{LT}	LEM_{FIRM}	LEM_{CEO}	LEM_{CFO}
UE	2.10***	3.33***	3.23***	3.38***
	(4.74)	(18.44)	(17.61)	(16.57)
LEM	-0.08	-0.09	0.18	-0.61
	(-0.25)	(-0.17)	(0.47)	(-1.54)
*LEM*UE*	2.28***	4.90***	2.90***	3.21***
	(2.65)	(4.10)	(3.39)	(3.49)
IR_CEO	0.01	0.06	0.09	
	(0.03)	(0.29)	(0.39)	
IR_CFO				-0.84
				(-1.64)
G-INDEX	0.01	0.01	0.01	0.01
	(0.48)	(0.34)	(0.39)	(0.27)
MAJINDEPT	-0.09	-0.06	-0.07	0.18
	(-0.53)	(-0.39)	(-0.42)	(0.96)
BOARD_SIZE	-1.19***	-1.05***	-1.07***	-0.89***
	(-4.81)	(-4.61)	(-4.64)	(-3.36)
SIZE	0.27***	0.25***	0.25***	0.26***
	(5.75)	(5.75)	(5.67)	(4.75)
BTM	1.73***	1.59***	1.64***	1.59***
	(7.84)	(7.88)	(7.94)	(6.95)
LEVERAGE	0.18	0.30	0.33	0.32
	(0.63)	(1.14)	(1.23)	(1.06)
LOSS	-0.02	-0.21	-0.24	-0.21
	(-0.10)	(-0.99)	(-1.07)	(-0.86)
LAG	-0.00	-0.01	-0.01	-0.01
	(-0.34)	(-0.88)	(-0.88)	(-1.34)
SD	-0.03*	-0.03**	-0.02**	-0.04***
	(-1.74)	(-2.31)	(-2.18)	(-3.39)
Constant	-0.31	-0.48	-0.59	-1.18
	(-0.41)	(-0.70)	(-0.82)	(-1.30)
Observations	48,130	55,150	52,918	40,351
R^2	0.030	0.031	0.030	0.034
Quarter FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
IQR-impact	26%	22%	16%	18%

Table 6: Heterogeneous Effects of Low Earnings Management on Earnings Response – Incentives

This table presents the results for Equation 1 based on cross-sectional partitions in the different panels. In Panel A (B) we split the sample based on the median level of the *IR_CEO* (*IR_CFO*). In Panel C we split the sample based on the median *LEM* in the same state and industry (Peer LEM). In Panel D we use the managerial ability score as the splitting variable. Results for three different *LEM* measures are reported. In columns (1) and (4), we use lagged *LEM*. In columns (2) and (5) we use LEM_{FIRM}, and in columns (3) and (6) we use LEM_{CEO}. We estimate panel regressions. We include but do not tabulate control variables (as in column (3) of Table 4) as well as industry and quarter fixed effects in each model. The 'IQR-impact' reported at the bottom of the table is the effect on the earnings response of an *LEM* inter-quartile range (IQR) increase, expressed in percent of the main *UE* effect. See the caption of Table 4 for an example. We cluster the standard errors at the firm level. *t*-statistics are in parentheses below the coefficients. ***, **, and * denote significant at the 1 %, 5 %, and 10 % (two-sided) levels.

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	Earnings announcement return (CAR)					
LEM Measure:	LEM	LEM_{FIRM}	LEM_{CEO}	LEM	LEM_{FIRM}	LEM_{CEO}
A: Incentive Ratio CEO		**High**			**Low**	
UE	2.47***	3.37***	3.24***	2.60***	2.92***	2.81***
	(6.59)	(13.61)	(13.51)	(8.70)	(12.22)	(11.52)
LEM	-0.39		0.67	0.00		-0.83
	(-1.30)		(0.68)	(0.00)		(-1.03)
*LEM*UE*	1.56**	3.48**	2.64**	0.52	2.01	0.30
	(2.25)	(2.02)	(2.11)	(0.97)	(1.16)	(0.25)
Observations	35,720	35,720	32,497	35,792	35,792	32,557
R^2	0.033	0.033	0.032	0.046	0.046	0.044
IQR-impact	24%	15%	14%	8%	10%	2%
B: Incentive Ratio CFO		**High**			**Low**	
UE	2.18***	2.18***	2.54***	2.65***	2.64***	2.77***
	(4.81)	(4.80)	(5.26)	(8.98)	(8.98)	(8.81)
LEM	-0.37	-0.39	-0.55	0.02	0.03	-0.05
	(-1.34)	(-1.41)	(-1.60)	(0.07)	(0.12)	(-0.15)
*LEM*UE*	1.50*	1.50*	1.28	0.38	0.38	0.44
	(1.73)	(1.72)	(1.36)	(0.69)	(0.70)	(0.75)
Observations	29,625	29,625	29,625	29,675	29,675	29,675
R^2	0.023	0.023	0.031	0.042	0.042	0.052
IQR-impact	26%	26%	19%	5%	5%	6%
C: Peer LEM		**Low**			**High**	
UE	2.23***	3.29***	3.08***	3.26***	3.17***	3.10***
	(7.49)	(14.13)	(13.24)	(7.67)	(14.41)	(13.70)
LEM	-0.42		-0.49	0.07		0.07
	(-1.23)		(-0.55)	(0.22)		(0.09)
*LEM*UE*	1.64***	5.23***	2.83***	-0.19	-1.60	-1.49
	(2.71)	(3.62)	(2.70)	(-0.29)	(-0.85)	(-1.17)
Observations	31,786	31,786	28,804	39,713	39,713	36,230
R^2	0.037	0.038	0.036	0.040	0.040	0.040
IQR-impact	28%	23%	16%	-2%	-7%	-8%
D: Managerial Ability		**Low**			**High**	
UE	2.13***	2.90***	2.82***	3.55***	3.39***	3.40***
	(8.02)	(18.00)	(17.55)	(7.79)	(6.58)	(6.37)
LEM	-0.25		0.27	-0.10		-0.22
	(-0.89)		(0.32)	(-0.33)		(-0.25)
*LEM*UE*	1.28***	3.63***	2.14**	-0.25	-1.15	-1.14
	(2.71)	(2.84)	(2.42)	(-0.28)	(-0.34)	(-0.48)
Observations	35,969	35,969	34,150	31,099	31,099	29,723
R^2	0.043	0.043	0.041	0.033	0.033	0.033
IQR-impact	23%	18%	13%	-3%	-5%	-6%
All panels:						
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Quarter fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes

Table 7: Heterogeneous Effects of Low Earnings Management on Earnings Response – Opaqueness and Opportunities

This table presents the results for Equation 1 based on cross-sectional partitions in the different panels. We split the sample based on the median level if the variable is continuous or based on the industry specific criteria. Results for three different *LEM* measures are reported. In columns (1) and (4), we use lagged *LEM*. In columns (2) and (5) we use LEM_{FIRM}, and in columns (3) and (6) we use LEM_{CEO}. We estimate panel regressions. We include but do not tabulate control variables (as in column (3) of Table 4) as well as industry and quarter fixed effects in each model. The 'IQR-impact' reported at the bottom of the table is the effect on the earnings response of an *LEM* inter-quartile range (IQR) increase, expressed in percent of the main *UE* effect. See the caption of Table 4 for an example. We cluster the standard errors at the firm level. *t*-statistics are in parentheses below the coefficients. ***, **, and * denote significant at the 1 %, 5 %, and 10 % (two-sided) levels.

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	Earnings announcement return (CAR)					
LEM Measure:	*LEM*	LEM_{FIRM}	LEM_{CEO}	*LEM*	LEM_{FIRM}	LEM_{CEO}
A: Intangibles		**High**			**Low**	
UE	2.70***	3.74***	3.63***	2.53***	2.75***	2.64***
	(6.72)	(12.81)	(12.44)	(7.75)	(13.46)	(12.73)
LEM	-0.30		0.13	-0.08		0.24
	(-1.09)		(0.18)	(-0.24)		(0.25)
*LEM*UE*	1.73**	5.08***	3.30**	0.36	1.01	-0.08
	(2.16)	(2.65)	(2.22)	(0.71)	(0.70)	(-0.08)
Observations	37,410	37,410	33,793	29,197	29,197	26,483
R^2	0.041	0.041	0.041	0.041	0.042	0.040
IQR-impact	25%	20%	16%	5%	5%	-1%
B: Industry		**HITECH**			**Non-HITECH**	
UE	1.67***	3.61***	3.35***	2.92***	3.04***	2.93***
	(3.97)	(9.90)	(10.41)	(10.02)	(14.50)	(13.57)
LEM	-1.39***		-0.67	0.19		-0.03
	(-3.25)		(-0.59)	(0.83)		(-0.05)
*LEM*UE*	2.76***	8.37***	4.99***	0.21	0.80	0.16
	(3.14)	(4.01)	(3.82)	(0.42)	(0.55)	(0.15)
Observations	16,689	16,689	15,128	54,823	54,823	49,926
R^2	0.039	0.040	0.039	0.040	0.040	0.038
IQR-impact	63%	34%	26%	3%	4%	1%
C: Reporting Lag		**High**			**Low**	
UE	1.99***	2.70***	2.54***	3.28***	3.53***	3.47***
	(6.71)	(14.26)	(13.29)	(9.52)	(12.33)	(11.63)
LEM	0.22		0.79	-0.46*		-0.59
	(0.63)		(0.85)	(-1.84)		(-0.86)
*LEM*UE*	1.09**	4.11***	1.75*	0.46	0.21	0.76
	(2.12)	(2.98)	(1.78)	(0.67)	(0.11)	(0.55)
Observations	26,388	26,388	24,061	45,124	45,124	40,993
R^2	0.039	0.039	0.037	0.040	0.040	0.039
IQR-impact	21%	22%	12%	5%	1%	4%
D: Analyst Coverage		**Low**			**High**	
UE	2.41***	3.18***	3.03***	2.82***	3.01***	2.94***
	(8.50)	(14.94)	(14.49)	(6.46)	(11.86)	(11.23)
LEM	-0.19		-0.30	-0.06		0.29
	(-0.58)		(-0.30)	(-0.23)		(0.42)
Interaction	1.14**	4.65***	2.41**	0.36	-0.20	-0.01
	(2.17)	(3.19)	(2.35)	(0.50)	(-0.11)	(-0.01)
Observations	26,698	26,698	24,004	44,814	44,814	41,050
R^2	0.057	0.058	0.055	0.027	0.027	0.026
IQR-impact	18%	21%	14%	5%	-1%	0%
All panels:						
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Quarter fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes

Table 8: Past Low Earnings Management and Earnings Informativeness

This table presents the results for Equation 2. The dependent variables are *AVAR* in Panel A, *NEWS_RATIO* in Panel B, and *Abs(CAR)* in Panel C. *AVAR* is the abnormal volatility in earnings announcement window compared to the estimation period. The *NEWS_RATIO* is the comparison of cumulative returns during the earnings announcement period with the return outside the period as log value. *Abs(CAR)* is the absolute value of cumulative abnormal return during the earnings announcement period. *Abs(UE)* is the absolute earnings surprise and *LEM* is the low earnings management score in the prior year. All other variables are defined in Table 2. We estimate panel regressions and include but do not tabulate industry and quarter fixed effects in each model. We include the standard controls (*SIZE*, *BTM*, *LEVERAGE*, *LOSS*, *LAG* and *SD*) in columns (1) and (3). We additionally control for corporate governance variables and the incentive ratio in columns (2) and (4). We cluster the standard errors at the firm level. *t*-statistics are in parentheses below the coefficients. ***, **, and * denote significant at the 1 %, 5 %, and 10 % (two-sided) levels.

	(1)	(2)	(3)	(4)
		Panel A. AVAR		
LEM	-0.13*	-0.32**	-0.04	-0.30**
	(-1.70)	(-2.49)	(-0.53)	(-2.41)
Abs(UE)	0.19***	0.10	0.46***	0.42***
	(4.29)	(0.89)	(9.15)	(3.58)
*LEM*Abs(UE)*	0.39***	0.93***	0.23**	0.69***
	(4.49)	(4.55)	(2.46)	(3.37)
R^2	0.017	0.020	0.025	0.023
		Panel B. News Ratio		
LEM	-0.03	-0.04	-0.03	-0.02
	(-1.45)	(-1.16)	(-1.27)	(-0.66)
Abs(UE)	0.02	0.01	0.07***	0.08**
	(1.57)	(0.42)	(4.66)	(2.28)
*LEM*Abs(UE)*	0.06***	0.13**	0.04	0.08
	(2.78)	(2.23)	(1.46)	(1.38)
R^2	0.006	0.005	0.005	0.006
		Panel C. Abs(CAR)		
LEM	-1.06***	-1.03***	-0.63***	-0.68***
	(-9.50)	(-5.53)	(-5.71)	(-3.69)
Abs(UE)	0.42***	0.72***	0.65***	0.87***
	(5.41)	(3.69)	(7.95)	(4.02)
*LEM*Abs(UE)*	0.67***	0.90***	0.42***	0.65*
	(4.62)	(2.71)	(2.85)	(1.86)
R^2	0.033	0.032	0.022	0.022
All Panels:				
Observations	145,531	55,130	145,531	55,130
Industry or Firm FE	Industry	Industry	Firm	Firm
Quarter FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Table 9: Past Low Earnings Management Score and Earnings Predictability and Analyst Forecast Revision

The dependent variable for columns (1) and (2) are actual earnings in $t+4$ and for (3) and (4) is the change in mean analyst forecast. *EARNINGS* is the actual earnings of the firm. *UE* is the earnings surprise and *LEM* is the low earnings management score in the prior year. All other variables are defined in Table 2. We estimate panel regressions and include but do not tabulate industry or firm and quarter fixed effects in each model. We cluster the standard errors at the firm level. t-statistics are in parentheses below the coefficients. ***, **, and * denote significant at the 1 %, 5 %, and 10 % (two-sided) levels.

	(1)	(2)	(3)	(4)
Dependent variable:	Actual Earnings in (t+4)		Change in Mean Analyst Forecast (t+4)	
EARNINGS	0.47***	0.70***		
	(19.98)	(34.19)		
LEM	-0.03***	0.01	0.00	-0.00
	(-3.83)	(0.64)	(0.74)	(-0.11)
*LEM*EARNINGS*	0.17***	0.10***		
	(5.40)	(3.29)		
UE			-0.01	-0.00
			(-1.36)	(-0.26)
*LEM*UE*			0.02*	0.01
			(1.84)	(1.61)
SIZE	0.07***	0.03***	-0.01***	-0.00
	(16.13)	(19.95)	(-5.89)	(-0.07)
BTM	-0.04***	0.01	0.04***	0.02***
	(-4.36)	(0.88)	(8.07)	(7.04)
LEVERAGE	0.10***	0.05***	0.05***	0.02***
	(6.46)	(6.70)	(8.16)	(5.84)
LOSS	0.06***	0.03***	-0.11***	-0.07***
	(8.89)	(4.22)	(-5.80)	(-5.71)
LAG	-0.00	-0.00	0.00	0.00
	(-1.15)	(-1.16)	(1.22)	(1.36)
SD	-0.00	-0.00***	0.00***	0.00***
	(-0.13)	(-7.27)	(3.35)	(3.12)
Constant	-0.42***	-0.22***	-0.05**	-0.08***
	(-11.92)	(-8.83)	(-2.29)	(-4.94)
Observations	114,489	114,489	108,825	108,825
R^2	0.405	0.621	0.047	0.042
Quarter FE	Yes	Yes	Yes	Yes
Fixed effect	Industry	Firm	Industry	Firm

Table 10: Drift

The dependent variable is the abnormal cumulative market-adjusted stock return after the earnings announcement in the period (+2, +60) (*CAR (+2,+60)*). *UE* is the earnings surprise and *LEM* is the low earnings management score in the prior year. All other variables are defined in Table 2. We estimate panel regressions and include but do not tabulate industry or firm and quarter fixed effects in each model, as indicated. We cluster the standard errors at the firm level. *t*-statistics are in parentheses below the coefficients. ***, **, and * denote significant at the 1 %, 5 %, and 10 % (two-sided) levels.

	(1)	(2)	(3)
Dependent variable:		*CAR(+2,+60)*	
UE	0.59***	0.65***	0.54***
	(3.32)	(3.67)	(2.80)
LEM	-0.71***	-0.71***	-0.71***
	(-3.12)	(-3.08)	(-2.67)
*LEM*UE*	0.31	0.33	0.50
	(0.91)	(0.96)	(1.37)
SIZE	1.05***	1.17***	5.12***
	(26.82)	(25.70)	(29.24)
BTM	1.68***	2.15***	11.52***
	(8.16)	(9.73)	(25.85)
LEVERAGE	-3.28***	-3.01***	4.25***
	(-12.39)	(-10.46)	(6.44)
LOSS	-0.05	0.28	1.56***
	(-0.22)	(1.37)	(5.91)
LAG	0.04***	0.04***	0.04***
	(8.12)	(5.59)	(4.84)
SD	0.05***	0.02	0.03
	(3.34)	(1.58)	(1.49)
Constant	-7.66***	-10.82***	-36.73***
	(-17.35)	(-5.73)	(-18.12)
Observations	130,211	130,211	130,211
R^2	0.009	0.016	0.029
Quarter FE	No	Yes	Yes
Fixed effect	None	Industry	Firm

Table 11: Robustness Checks

This table presents selected results from the robustness checks for our main result in Table 4. The dependent variable is the abnormal cumulative market-adjusted stock return over the three days surrounding the earnings announcement (CAR). UE is the earnings surprise and LEM is the ow earnings management score in the prior year. All other variables are defined in Table 2. In Panel A, we additionally control for other earnings characteristics (abbreviated by EC in the regressions) and interact those characteristics with the unexpected earnings. Specifically, in columns (1) and (2) we use (absolute) total accruals scaled by total assets. In columns (3) and (4) we include the current-year low earnings management score. In columns (5) and (6) we control for (orthogonalized) information uncertainty (IU); see the text for details on the construction of this variable. In Panel B, we present summary results for variations of clustering of standard errors and fixed effects. In columns (1) and (2) we use two-way clustering (firm and quarter) in the spirit of Petersen (2009). In columns (3) and (4) we use industry-quarter and firm-year fixed effects, respectively. In columns (5) and (6) we use CEO and CFO fixed effects, respectively. In all columns, we control for firm, incentive and corporate governance characteristics, as in columns (5) and (6) of Table 4. If not otherwise stated we use standard errors are clustered at the firm level. t-statistics are in parentheses below the coefficients. ***, **, and * denote significant at the 1 %, 5 %, and 10 % (two-sided) levels.

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	Earnings announcement return (CAR)					
Panel A: Other earnings characteristics						
Earnings Characteristic (EC):	Abs(Total Accruals)		Current LEM		Information Uncertainty	
UE	2.79***	3.20***	2.18***	2.45***	3.33***	3.71***
	(8.66)	(9.20)	(5.62)	(5.52)	(10.40)	(10.79)
LEM	-0.05	-0.05	0.05	-0.03	-0.13	-0.24
	(-0.22)	(-0.24)	(0.23)	(-0.14)	(-0.77)	(-1.24)
*LEM*UE*	1.39***	1.23**	1.31***	1.21**	1.34***	1.19***
	(2.87)	(2.35)	(2.59)	(2.20)	(3.41)	(2.79)
EC	0.24	0.86	-0.37*	-0.38	0.04	-0.65***
	(0.30)	(0.97)	(-1.69)	(-1.61)	(0.17)	(1.93)
*EC * UE*	-3.32***	-4.06***	1.21**	1.35**	0.11	0.60***
	(-2.91)	(-3.61)	(2.20)	(2.33)	(0.60)	(2.61)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	55,115	55,115	49,944	49,944	52,443	52,443
R^2	0.031	0.039	0.031	0.040	0.031	0.039
Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Industry	Firm	Industry	Firm	Industry	Firm
IQR-impact	19%	15%	23%	19%	20%	16%
Panel B: Clustering and Fixed Effects						
	Two Way Clustering		Other Fixed Effects			
UE	2.31***	2.61***	2.29***	2.75***	2.64***	2.85***
	(8.97)	(8.84)	(8.79)	(6.83)	(8.37)	(7.58)
LEM	-0.08	-0.08	-0.05	0.15	-0.26	-0.51
	(-0.39)	(-0.38)	(-0.23)	(0.19)	(-1.00)	(-1.59)
*LEM*UE*	1.64***	1.54***	1.68***	1.75**	1.53***	1.48**
	(4.03)	(3.18)	(3.51)	(2.38)	(2.71)	(2.14)
Observations	55,132	55,132	55,132	55,132	52,896	40,888
R^2	0.033	0.077	0.077	0.314	0.102	0.127
Quarter FE	Yes	Yes	No	No	Yes	Yes
Fixed effects	Industry	Firm	Industry-quarter	Firm-year	CEO	CFO
IQR-impact	27%	23%	28%	24%	22%	20%

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