How do Earnings Manipulators Guide Investors?[*]

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Abstract:
This paper investigates how earnings manipulation influences firms' earnings guidance strategies and their consequences. Using a difference-in-differences analysis, we find that firms manipulating earnings increase earnings guidance issuance during the misstatement period, compared to matched control firms. Further, guidance issued by these firms is more in line with their manipulated earnings rather than with restated earnings. These findings are consistent with the conjecture that firms strategically use earnings guidance to adjust market beliefs in anticipation of forthcoming manipulated earnings. We also find that earnings guidance delays the detection of accounting manipulations. However, when earnings manipulations are detected, firms and managers issuing earnings guidance incur additional legal costs, as reflected in the higher settlement amounts paid by these firms and a higher likelihood that CEOs responsible for misstatements will be banned from serving as officers, directors, or accountants of public companies in the future.

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Oh what a tangled web we weave
When first we practice to deceive
Sir Walter Scott (Marmion, 1808)

1. Introduction:

Firms that are involved in material earnings manipulations tend to inflate reported earnings significantly to hide diminishing performance (Dechow et al., 2011).[1] Given that earnings guidance is an important mechanism used by managers to preempt disclosure of the earnings information (Hirst et al., 2008; Beyer et al., 2010), managers are likely to adjust their earnings guidance strategies when they anticipate overstating earnings to cover up a slowdown in performance.[2] In this paper, we investigate what kind of earnings guidance managers provide when they also expect to overstate earnings, whether guidance affects the detection of earnings manipulation, and any legal costs imposed on firms and managers associated with their guidance strategies.[3]

The Nortel Networks case provides an example of how managers adjust their earnings guidance strategy when they also engage in earnings manipulation. Dunn and Beatty (i.e., the CEO and the CFO of Nortel) overstated revenue by over $1 billion in 2000 and directed the

[1] We define material earnings manipulations to be earnings management activities that violate Generally Accepted Accounting Principles (GAAP). In terms of the magnitude of the misstatement amount, for example, Palmrose and Scholz (2004) report that firms in their restatement sample inflate earnings by 19%, on average. A recent report by the Committee of Sponsoring Organizations of the Treadway Commission documents that for firms manipulating earnings, as identified by the SEC between January 1998 and December 2007, the average cumulative earnings misstatement is $397.7 million while the average sales revenue is $2,557.3 million based on the last financial statements issued prior to the beginning of the fraud period. Further, firms in our sample inflate their earnings, on average, by 21.6% of sales.

[2] Beyer et al. (2010) show that about 55% of accounting based information (measured by stock returns on days when accounting disclosures are made) come from management forecasts, suggesting that management forecasts play an important role as a source of information to investors about forthcoming reported earnings.

[3] Note that Kasznik (1999) and our paper examine different causal relations between earnings management and management guidance strategies. While Kasznik (1999) investigates how the issuance of earnings guidance motivates the firm to manage earnings, we focus on how the decision to manipulate earnings influences the firm's earnings guidance strategies.

improper release of approximately $500 million of excess reserves to inflate earnings for 2003. The SEC describes Nortel's guidance strategy in its original complaint filed on March 12, 2007:

> "… despite their understanding that Nortel was likely to produce a loss for the year, Dunn and Beatty continued to tell the public that they expected Nortel to achieve pro forma profitability by the end of June 2003. In the Fourth Quarter 2002 Earnings Release, Beatty specifically reaffirmed Nortel's earlier guidance that Nortel expects to achieve pro forma profitability by the second quarter of 2003."

The above example suggests that, at the time of issuing earnings guidance, the CEO and CFO were aware that they were engaged in earnings manipulation. As they expected financial performance to be poor, they planned to continue misrepresenting earnings, and released multiple earnings forecasts that were consistent with their anticipated misreported earnings, rather than with actual earnings. Moreover, the Nortel example suggests that the firm *knowingly* issued false guidance to deliberately mislead investors about the firm's expected profitability.

To provide systematic empirical evidence on the earnings guidance strategies of manipulation firms, we identify a sample of firms that, according to SEC enforcement actions, inflated earnings for multiple years. We are unable to identify when exactly these managers decided to manipulate earnings. However, in contrast to firms that manipulate earnings for a single year, multiple year earnings manipulators are more likely to be aware when they issue earnings guidance that they will be subsequently manipulating their mandated earnings reports.[4] In addition, unlike the case of restatements, the SEC enforcement actions focus on the most egregious earnings manipulation cases where managers are more likely to have conspired and intentionally engaged in earnings manipulation schemes (Dechow et al., 2011).[5] We also

[4] When firms embark on earnings manipulation, the concern that the first year's misstatements may be detected, along with the pressure imposed by the reversal of the first year's upward earnings manipulation on subsequent years' earnings, could increase the likelihood that firms would also continue to falsify earnings in subsequent years.
[5] Our sample may still include firms that have not decided to manipulate earnings when issuing earnings forecasts. Our additional empirical analyses, however, are inconsistent with the argument that such cases dominate our sample. See more discussion on reverse causality on page 5.

compile a matched sample of non-manipulation firms, based on industry and firm size, and hand collect earnings guidance data for one year before and during the misstatement period for both manipulation and matched control firms.[6]

We find that *after* commencing earnings falsification, manipulation firms are more likely to issue earnings forecasts than non-manipulation firms. Given that the misstatement decision may be driven by the systematic differences between manipulation and non-manipulation firms, we also conduct a difference-in-differences analysis on the likelihood of forecast issuance, which allows us to better control for firm-specific sticky earnings guidance strategies and time-series earnings guidance trends. We find that manipulation firms increase earnings guidance issuance during the misstatement period to a significantly greater extent than the matched control firms during the same period. Moreover, management earnings guidance is more consistent with the reported *manipulated* earnings rather than the restated *actual* earnings. Specifically, the median earnings forecast is the same as the median manipulated earnings, yet significantly greater than the median restated *actual* earnings. This result indicates that firms manipulating earnings appear to similarly inflate their earnings guidance (i.e., voluntary disclosures) and reported earnings (i.e., mandatory disclosures).[7]

Given that the manipulation firms can choose not to issue guidance, the release of earnings guidance reports that are in line with the misreported earnings is consistent with arguments in the psychology literature that individuals choose to repeat the same or similar information in varied contexts because such repetition increases the perceived validity of the

[6] We do not use management guidance data from the First Call data base because many manipulation firms in our sample (33%) are not covered by First Call and Chuk et al. (2012) document that First Call exhibits systematic biases in the way it collects management guidance from company press releases.

[7] The mean earnings forecasts are significantly higher than both the reported *manipulated* earnings and restated *actual* earnings due to the left skewness of the reported manipulated earnings and restated actual earnings (e.g., Chen 2004). However, consistent with the median results, the average difference between earnings forecasts and the *actual* earnings is notably larger than the average difference between the earnings forecasts and the *manipulated* earnings.

information, regardless of whether it is true or false (e.g., Hasher et al. 1977; Bacon 1979, Schwartz 1982; Gigerenzer 1984; Schumann et al. 1990; Hawkin and Hoch 1992; Joe 2003)[8]. Applying the above theory to our setting, we suggest the following interpretation for our results. Managers of manipulation firms issue earnings guidance that is in line with the overstated reported earnings to either proactively bolster expectations in press releases or reactively respond to inquiries raised by analysts and investors. Such a strategy could ease concerns of individuals, such as investors, analysts and the media, who may suspect that there is earnings manipulation, thereby allaying any potential doubt in their minds about the economic reality of the firm and avoiding or delaying detection of the earnings misstatement.[9]

We next analyze the consequences of the earnings guidance strategies adopted by firms manipulating earnings. If repeating a statement increases its perceived validity, the increase in forecast issuance would improve earnings credibility and, therefore, delay the detection of accounting manipulations. Because the detection risk associated with accounting manipulations may also influence the management forecast issuance decision, we use a simultaneous equations approach to examine the relation between management forecast issuance and manipulation detection. We find that managers are more likely to issue guidance when the detection risk is high (i.e., the lead time to detection is shorter). More importantly, we also find that it takes longer to detect accounting manipulations for firms issuing earnings forecasts than for those not issuing earnings forecasts. Regarding legal consequences, we find that when the manipulation is revealed, the settlement amounts following class action and SEC lawsuits are significantly higher

[8] While we do not have direct evidence that managers are aware of the findings from the psychology literature when they choose to manipulate guidance reports, the Nortel example suggests that managers are using guidance to bolster the effect of the manipulated earnings on investor perceptions.

[9] We note that the earnings guidance strategy that managers of manipulation firms adopt will depend on the cost-benefit tradeoff. Managers will only increase management guidance issuance if the increased guidance can avoid or delay the detection of manipulation, *and* this benefit outweighs any expected additional legal costs associated with the increased earnings guidance. We discuss this further on pages 10-12.

for manipulation firms issuing earnings guidance than for those not issuing guidance, after controlling for the severity of misstatements.[10] Moreover, CEOs of manipulation firms issuing earnings guidance are more likely to be banned from serving as officers, directors, or accountants of public companies in the future. These findings suggest that firms and individual managers bear higher legal costs when they not only misstate earnings but also issue false guidance reports consistent with the misstated earnings.

An alternative explanation for the increased likelihood of management earnings guidance by manipulation firms is reverse causality, i.e. managers issue earnings forecasts that are *ex post* overoptimistic, and then have to manipulate earnings in order to meet their own forecasts. Specifically, Schrand and Zechman (2011) provide evidence that managers of firms misstating earnings tend to be over-confident about future performance. Kasznik (1999) finds that firms manage earnings to meet their previously issued forecasts. This explanation assumes that the earnings guidance decision is independent of earnings manipulations. However, it is inconsistent with our finding that manipulation firms are more likely to issue earnings guidance when the manipulation detection risk is high. To further alleviate the reverse causality concern, we examine the likelihood that manipulation firms issue management earnings guidance after removing the first misstatement year. The reverse causality explanation implies that a rational manager who issues honest, yet overoptimistic, forecasts in the first manipulation year and has to manipulate earnings to meet these forecasts, would be unlikely to continue issuing overoptimistic forecasts in subsequent misstatement years, thereby avoiding the need for further earnings

[10] It is possible that managers become more reluctant to increase management earnings guidance when the legal cost following the detection of manipulation is high (i.e., a negative association between management guidance issuance and legal costs). We do not use simultaneous equations to control for this possibility because this analysis is conducted at the firm-level and there are only 70 observations. However, not controlling for this will bias against finding that manipulation firms issuing earnings guidance bear higher litigation costs (i.e., a positive association between management guidance issuance and legal costs).

manipulations. As a result, manipulation firms would not be more likely than control firms to issue overoptimistic earnings guidance in the misstatement years subsequent to the first misstatement year. Our difference-in-differences analysis results are inconsistent with the reverse causality explanation, and show that manipulation firms are *more* likely to issue earnings guidance in line with misreported earnings, after we exclude the first misstatement year. This finding is consistent with our explanation that, anticipating the need to falsify earnings, firms strategically adjust their guidance strategies to help conceal the manipulation.

Our study contributes to both the earnings management and voluntary disclosure literatures. While prior research has extensively documented the characteristics and consequences of earnings manipulations (e.g., Beneish 1999; Karpoff et al., 2008a, 2008b; Dechow et al., 2011), only a few studies have investigated how earnings manipulations affect other decisions within the firm. These studies (Sadka 2006; McNichols and Stubbern 2008; Kedia and Phillipon 2009) have focused on the operational and investment decisions of firms manipulating earnings. For example, Kedia and Phillipon (2009) find that in order to reduce the risk of detection, manipulation firms also distort their hiring and investment decisions to match their inflated earnings performance. To the best of our knowledge, our study is one of the earliest to empirically investigate how firms strategically adjust their earnings guidance when manipulating their mandatory financial reports. Our results suggest that when firms choose to manipulate their reported earnings, they also strategically adjust their earnings guidance in order to validate overstated earnings.

Our paper also contributes to the management forecast literature which has generally assumed that reported earnings are more reliable than earnings forecasts, and thus serve to confirm earnings forecasts (e.g., Gigler and Hemmer 2001). These studies have found that

management earnings forecasts reduce information asymmetry (Ajinkya and Gift 1984; King et al., 1990; Coller and Yohn 1997), decrease earnings management (Jo and Kim 2007), and increase reporting transparency (Graham et al. 2005). Our findings suggest that the above conclusions, while relevant to firms reporting truthfully, may not be applicable to firms engaged in falsifying earnings. Our evidence of delayed detection for manipulators issuing earnings guidance indicates that management forecasts issued by firms manipulating earnings increase information asymmetry by fogging financial reporting transparency. A concurrent working paper by Baginski et al. (2011) also examines the properties of management forecasts issued by firms engaging in accounting fraud. Our paper differs from theirs mainly in two significant ways. First, we examine the consequences of the forecasting strategies (i.e., timeliness of manipulation detection and legal penalties for firms and managers) while they do not. Second, the implications from our study are different from theirs. While our results are consistent with voluntary disclosure being used to hide or delay the detection of fraud, Baginski et al. conclude that "incentives to engage in quality voluntary disclosure while committing fraud remain strong."[11]

The remainder of the paper is organized as follows. Section 2 reviews previous research and develops our hypotheses. Section 3 describes our sample and research design. Section 4 presents empirical results, and Section 5 concludes the paper.

[11] In addition, our samples and research designs differ from Baginski et al. We focus on firms that have misstated at least two years' financial statements in order to alleviate the concern of reverse causality. We also hand collect management forecast data due to the limitations of the First Call database (Chuk et al., 2012). These differences in samples and research designs likely explain the differences in our results on management forecast characteristics.

2. Prior research and hypothesis development

2.1 Voluntary disclosure and mandatory disclosure

Management earnings guidance is a key voluntary disclosure mechanism (e.g., Hirst et al. 2008). The earnings news embedded in management guidance has been shown to influence prices (e.g., Patell, 1976; Penman, 1980), change analyst earnings forecasts (e.g., Baginski and Hassell, 1990; Williams, 1996), and reduce information asymmetry (e.g., Coller and Yohn 1997).

Prior studies have shown that both the quantity and quality of voluntary disclosures can be affected by mandatory disclosures, although these studies generally assume that the mandatory disclosures are truthful (e.g., Verrecchia 1983; Bagnoli and Watts 2007). Regarding forecast quantity, prior studies report mixed evidence on whether mandatory disclosures serve as substitutes or complements to voluntary disclosures. On the one hand, an increase in the level of mandatory disclosures could potentially provide additional information regarding the firm's value, which would subsume the demand for voluntary disclosures and, thus, decrease its quantity (e.g., Verrecchia 1983; Dye 1985; Einhorn 2005; Lang and Lundholm 1993; Tasker 1998). On the other hand, voluntary disclosures may complement mandatory disclosures when voluntary disclosures provide information regarding the implications of mandatory disclosures for firm value (e.g., Bagnoli and Watts 2007; Lennox and Park 2006).

With respect to the quality of voluntary disclosures, the prior literature generally shows that mandatory disclosure quality can also affect voluntary disclosure quality. For example, Gigler and Hemmer (2001) propose that mandatory disclosure plays a confirmatory role to more timely voluntary disclosure, and thus, increases the quality of voluntary disclosure. Langberg and Sivaramakrishnan (2008) also show that a precise mandatory report enables an analyst to scrutinize the quality of voluntary disclosure more efficiently, which makes voluntary disclosure

less likely but more precise. While the above-mentioned studies generally assume mandatory reports to be truthful, our study focuses on mandatory reports that are manipulated. Thus, our study differs from previous research by examining how *manipulated* mandated disclosures affect both the quantity and quality of voluntary disclosures.

2.2 Hypothesis development

Prior research has documented extremely negative consequences for both firms and managers when material accounting misstatements are detected and disclosed. In terms of stock market consequences, Karpoff et al. (2008a) document that firms, on average, lose 38 percent of their market value when misstatements are publicly disclosed. Managers involved in accounting manipulations also bear substantial labor market costs and legal costs. Karpoff et al. (2008b) find that 93.4% of individuals identified by the regulators as being responsible for misstatements lose their jobs during the misstatement or the enforcement period, and these managers suffer significant legal consequences including employment sanctions, fines and even criminal penalties. Therefore, managers involved in accounting manipulations are likely to have strong incentives to take actions that reduce the probability of being detected.

Sadka (2006) provides a model in which managers of manipulation firms attempt to avoid detection by adopting product market decisions (e.g., pricing and output decisions) which are sub-optimal, but consistent with their manipulated financial reports.[12] Similarly, Kedia and Philippon (2009) show that when manipulating earnings, firms hire and invest excessively in order to pool with high productivity firms and, thus, hide the manipulation. When fraud is discovered, firms shed labor and capital. In other words, to conceal earnings manipulations,

[12] Using the WorldCom case as an example, Sadka (2006) suggests that WorldCom implemented a product market decision to increase market share in order to lend credibility to their misreported financial statements.

firms are willing make sub-optimal operating decisions at the expense of their true profits and cash flows.

Following the same logic, if managers of manipulation firms choose to issue forecasts, we expect them to tailor their forecasts to be close to the anticipated falsified earnings, rather than the actual earnings, in order to conceal their misstatements.[13] Therefore, we predict that earnings forecasts issued by manipulation firms would be more consistent with the misreported earnings rather than the actual earnings.

However, *ex ante* it is unclear how earnings manipulation decisions influence the likelihood of issuing earnings guidance. Managers could increase, decrease or not change the likelihood of guidance issuance, depending on their perceived cost and benefit tradeoffs. In terms of cost, earnings guidance may increase legal costs for firms and managers once the manipulation is detected. For example, the prior literature has shown that managers face high litigation risk when they fail to release accurate and timely earnings news, and such risk substantially affects management forecast strategies (e.g., Francis et al. 1994; Skinner 1994; Rogers and Stocken 2005).

In terms of benefits, Dechow et al. (2011) show that managers generally manipulate earnings to hide diminishing performance during misstatement years. Therefore, if strategic earnings guidance helps to improve the credibility of manipulated earnings, managers could avoid or delay the detection of earnings manipulation by using guidance to consistently paint a rosy picture of the firm's performance. The psychology literature provides considerable evidence that the mere repetition of the same or similar but non-identical statements enhances

[13] If managers forecast actual earnings and end up reporting inflated earnings, there will be a considerable difference between the forecasted and reported earnings (i.e., a large positive earnings surprise), which is likely to attract attention from analysts and other information users (Koester et al., 2011),whose questions could raise concerns about the credibility of the reported earnings.

their perceived validity (e.g., Hasher, Goldstein and Toppino 1977; Bacon 1979; Schwartz 1982 and Gigerenzer 1984; Hawkin and Hoch, 1992; Joe, 2003). For example, Hasher et al. (1977) document that repeated statements are judged to be more truthful than those not repeated, regardless of whether the statements are actually true or false. In fact, repetition is already a commonly used tool in the field of advertising to convince consumers of the validity of product claims (e.g., Roggeveen and Johar, 2002). Interestingly, this theory does not require that repetition involve the use of exactly the same statements. Schumann et. al. (1990) and Unnava and Bernkrant (1991) show that varying advertisements are actually more effective than repeating the same advertisement in terms of both product recall and persuasion. Joe (2003) finds that redundant negative information in the media about an auditor's client increases the auditor's assessments of its client's likelihood of bankruptcy. The common explanation or theory behind such effects of repetition is that people assess the truthfulness of a statement based on memory retrieval; if a new statement is similar to what the decision maker already has in memory, he/she is more likely to evaluate the statement to be valid (Bonner, 2008).

Following the arguments in the psychology literature, if manipulation firms issue earnings forecasts in line with their anticipated misstated earnings and then release similar but not necessarily identical manipulated earnings, it is possible that the earnings number will look familiar to market participants, potentially increasing its credibility. As a consequence, interested parties are less likely to be skeptical, thereby helping to avoid or delay detection of earnings misstatements. Taking the above-described benefits and costs together, when a firm anticipates inflating its reported earnings, it may increase the likelihood of earnings guidance if it believes that the expected benefits of issuing earnings guidance outweigh the expected incremental legal costs associated with this strategy. Alternatively, a firm may decrease the

likelihood of earnings guidance if it believes the increase in expected legal costs outweighs the benefit of improved earnings credibility.

It is also possible that managers may not change the likelihood of issuing earnings guidance because such a change could itself alert investors to potential problems with the reported earnings. Specifically, following the intuition in the economics of disclosure literature (Milgrom 1981; Grossman 1981; Milgrom and Roberts 1986), sophisticated investors may be skeptical of the quality of earnings if reported earnings are accompanied by changes in the firm's guidance strategies compared to earlier (pre-manipulation) periods or compared to the usual guidance practice of firms with similar characteristics. For example, a skeptical investor might assume the worst about the reported earnings (i.e., earnings have been manipulated) if there is a corresponding increase in the number of management forecasts. Anticipating that changes in the likelihood of issuing earnings guidance could reduce the credibility of their misreported earnings, firms might decide to stay with the same pattern of pre-manipulation earnings guidance, or mimic the guidance strategy of other firms, with similar characteristics, in the same industry. The foregoing arguments lead to our first hypothesis, stated in alternative form.

> H1: Manipulation firms are more likely to issue earnings forecasts during misstatement years than non-manipulation firms, and earnings forecasts issued by manipulation firms are likely to be more consistent with misreported earnings than actual earnings.

Our first hypothesis focuses on the characteristics of management earnings forecasts. We next investigate the potential consequences of such forecasts. According to the psychology literature, issuing earnings guidance consistent with misreported earnings would increase the perceived credibility of reported earnings. If this holds, a logical conclusion is that the increase in the perceived credibility of the manipulated earnings is likely to reduce the likelihood of or, at least, delay detection of the misstatement. Dyck et al., (2010) document that fraud can be

detected by a wide range of agents, such as equity investors, analysts, the media, auditors, and regulators.[14] Many of these agents are likely to pay attention to or use management forecasts (Hirst et al. 2008). Thus, if forecasts increase the credibility of reported earnings for these agents, who are most likely to detect any earnings manipulations, the forecasts will also reduce these agents' incentives to collect information that could cast doubts on the reported earnings, thereby delaying the detection of accounting manipulations .[15] Formally stated, our next hypothesis is as follows:

> H2: It takes longer to detect the accounting misstatements of manipulation firms issuing earnings forecasts than for manipulation firms not issuing earnings forecasts.

H2 focuses on a potential benefit of issuing earnings guidance that is consistent with misreported earnings. Our final hypothesis examines whether issuing earnings guidance leads to any additional *costs* for manipulation firms and their managers. Karpoff et al. (2007) and Karpoff et al. (2008b) show that misstatement firms and managers responsible for the misstatements bear substantial legal penalties when manipulations are discovered. The legal costs not only include substantial monetary penalties, but also non-monetary penalties such as employment restrictions or criminal charges. Further, compounding the misstatement by also knowingly issuing false guidance, that is consistent with the manipulation, violates Section 17(a) of the Securities Act and Section 10(b) of the Exchange Act. It seems reasonable to expect that the punishment would fit the crime, i.e., violating more antifraud provisions could lead to more legal penalties being imposed on both firms and managers. Therefore, we expect manipulation firms and their managers to bear higher legal costs when misstatements are detected, if firms

[14] Note that firms in our sample have been investigated by the SEC. The SEC takes enforcement actions against firms, managers, auditors, and other parties involved in violations of SEC and federal rules even though these manipulation cases may not initially be discovered by the SEC.

[15] A corroborative forecasting strategy would not necessarily delay fraud detection if the only whistleblowers were insiders, because the cost of gathering information is relatively low for them.

have also issued false earnings guidance.[16] For example, the SEC's enforcement release against Waste Management describes its earnings guidance strategy as follows (AAER No. 1904).

> "WMI violated the antifraud provisions in June 1999 when its management publicly projected results for the company's second quarter. The Commission's Complaint against Proto and DeFrates further alleges that they made additional materially false or misleading statements in June and July 1999, about WMI's ability to meet its previously announced second quarter 1999 earnings guidance of $0.78 to $0.82 per share. **The Complaint alleges that between June 7 and July 2, 1999, on at least six separate occasions, Proto and/or DeFrates confirmed the company's second quarter 1999 EPS guidance in conversations with Wall Street analysts, investment bankers, and members of the public, even though they knew, or were reckless in not knowing, that WMI would fall well short of this previously stated earnings guidance… WMI was aware of significant adverse trends in its business which made its continued public support of its previously announced forecasts unreasonable**.
>
> Proto has consented to pay a total of $3,721,177. This amount represents: (1) $1,503,670 in disgorgement of his illegal insider trading losses avoided, plus prejudgment interest of $513,837; (2) a civil penalty equal to his illegal insider trading losses avoided of $1,503,670; and (3) **a $200,000 civil penalty for making materially false or misleading statements regarding WMI's first quarter 1999 earnings and WMI's ability to meet its previously announced second quarter 1999 earnings guidance**…"

The above example is consistent with our prediction and suggests that false earnings guidance could bring additional legal penalties for firms and managers. Therefore we examine the following hypothesis:

> H3: Firms and managers issuing earnings forecasts during the misstatement period face higher legal penalties when detected, compared to manipulation firms not issuing forecasts.

3. Sample selection

Our sample begins with 2,261 Accounting and Auditing Enforcement Releases (AAERs) issued by the SEC from May 17th, 1982 through June 10th, 2005.[17] The SEC has issued AAERs against companies, auditors, and officers for alleged accounting and/or auditing misconduct

[16] We do not examine additional labor market costs due to false earnings guidance because Karpoff et al. (2008b) find that 93 percent of the managers who are involved in their firms misstating earnings lose their jobs following discovery of fraud. Therefore, there is unlikely to be enough cross-sectional variation in turnover rates to test the impact of falsifying earnings guidance on the turnover rate.

[17] We would like to thank Dechow et al. (2011) for sharing their AAER database.

since 1982. The misstatements identified in the AAERs typically are egregious cases of material misstatements, involving GAAP violations that have been detected by the SEC. One limitation of the AAER misstatement sample is that the SEC is unlikely to have identified all the manipulations; thus some of our control firms might have "undetected" manipulations. However, this sample limitation would only affect any inference related to the association between earnings forecast characteristics and manipulations if the SEC were to systematically pursue companies with certain forecast characteristics. We are not aware of any evidence supporting this possibility.[18] The literature generally suggests that the SEC relies on a wide range of information sources to identify firms for review (Dechow et al., 2011; Dyck et al., 2010). Nevertheless, our conclusions on the forecasting strategies of manipulation firms might not be generalizable to "undetected" manipulations.

Table 1 reports our sample selection procedure. A total of 415 accounting manipulation firms referenced in the AAERs have CNUM data. We next exclude 227 firms, for which accounting manipulations occurred prior to 1994 because management forecast data are difficult to manually collect before 1994, resulting in 188 manipulation firms. As discussed in the introduction, compared to firms which manipulate earnings for only one year, firms misstating earnings for multiple years are more likely to have already decided to manipulate their earnings when they issue earnings forecasts. Because we are interested in how accounting manipulations affect earnings guidance strategies, we focus on firms that misstated at least two years' financial statements by removing 94 firms that only manipulate earnings for one year. We then exclude three firms that managed earnings downward. Finally, we require manipulation firms to have

[18] In addition, if our result of increasing forecast issuance is driven by the SEC's selection bias, we would expect to observe more timely detection for manipulation firms with earnings guidance. In contrast, we find that it takes longer to detect the manipulation by firms issuing earnings guidance, suggesting that the SEC's selection bias is unlikely to explain our results.

data on fiscal year, total assets and SIC code in order to find matched non-manipulation firms. The final accounting manipulation sample contains 76 firms with 197 corresponding firm-years.[19]

We next compile a control sample. For each manipulation firm, we identify firms that: (1) are in the same industry, (2) have total assets in the range of 80 percent to 120 percent of the manipulation firm's total assets in the year prior to the first manipulation year, and (3) still exist during the last misstatement year of the corresponding manipulation firm. We follow Frankel et al.'s (2002) SIC-based industry classification scheme. If there is more than one matched firm available, we keep the control firm whose total asset value is closest to that of the sample firm in the year immediately before the manipulation years.

We hand collect management forecast data to avoid the potential systematic bias introduced by the coverage of Thomson First Call's Company Issued Guidance (CIG). Chuk et al. (2012) find that the CIG database has limited coverage and tends to cover firms that are performing well. Therefore, CIG likely under-reports management forecast data for manipulation firms because these firms tend to be poor performers (Dechow et al., 2011). We gather EPS forecasts, including point, range, open-ended and qualitative forecasts, from the Dow Jones News Wire for both the manipulation and matched samples. We collect management forecasts for the year prior to and during the misstatement period. The year prior to the misstatement period serves as an additional benchmark, besides the control firms, for testing H1.

[19] Our sample size is small due to the constraint of availability of management forecast data and the requirement of having multiple-year misstatements. We examine whether our manipulation sample is systematically different from other manipulation firms. In terms of total assets, leverage, and likelihood of having losses one year prior to manipulations, our 76 manipulation firms are not significantly different from other manipulation firms. But our sample has higher return on assets than other manipulation firms. We note that our sample size is not particularly small in comparison to other studies using accounting manipulation samples. For example, Erickson et al. (2006) analyze executive compensation for 50 accounting fraud firms and Farber (2005) examines corporate governance for 87 accounting fraud firms.

Further sample attribution processes for testing other hypotheses are discussed in related analyses.

[Table 1]

4. Empirical results

4.1 Main analyses

H1 hypothesizes that manipulation firms are more likely to issue earnings forecasts than a control sample of non-manipulation firms, and also that earnings forecasts issued by manipulation firms are likely to be more consistent with misreported earnings than actual earnings. To test H1, we examine both the likelihood of forecast issuance and the magnitude of management forecasts.

We first compare the likelihood of issuing annual and quarterly earnings forecasts for manipulation firm-years versus matched non-manipulation firm-years. We report annual and quarterly earnings forecasts separately, as well as the combined forecasts in Table 2 Panel A. Column (1) of Panel A shows that while 56.3 percent of manipulation firms issue EPS forecasts (FORECAST), only 42.6 percent of non-manipulation firms do so. The difference is statistically significant at the one-percent level. Conditional on issuing EPS forecasts, the average number of forecasts per year is 4.2 for manipulation firm-years, while it is only 3.2 for non-manipulation firm-years. The difference is significant at the ten-percent level. There are no differences between the two groups for other forecast properties.

Columns (2) and (3) report annual and quarterly forecast properties separately. Among all the forecast issuances, 47% are annual forecasts, and 53% are quarterly forecasts (not tabulated). Consistent with the results for the overall forecasts, manipulation firms are more likely to issue both annual and quarterly forecasts than non-manipulation firms. Compared with quarterly EPS forecasts issued by control firms, the corresponding forecasts issued by manipulation firms are

more specific, less timely (i.e., shorter HORIZON for manipulation firms), and closer to reported earnings (i.e., smaller ABSERROR for manipulation firms). Across the three columns, there are no significant differences in NEWS (i.e., the difference between management EPS forecast and prior analysts' EPS forecast, scaled by stock price at the end of prior year) between the two groups, suggesting that for each management forecast, manipulating firms are not managing expectations downward to a greater extent than control firms. Taken together, the results reported in Panel A of Table 2 suggest that manipulation firms are more likely to issue earnings forecasts and tend to issue more frequent forecasts.

Panel B compares firm characteristics (measured one year prior to manipulations) for manipulation and non-manipulation firms. Manipulation firms have a higher mean return on assets (ROA) than control firms, but the median ROAs are similar across the two groups. The other noticeable statistically significant difference is that manipulation firms seem to be less likely to belong to a litigious industry than non-manipulation firms. We control for these firm characteristics in our subsequent multivariate analysis.

[Table 2]

It is possible that manipulation firms are always more likely to issue forecasts than matched control firms, even before they start misstating earnings. To investigate this possibility, we compare the percentage of firm-years during which forecasts are issued (Table 3, Panel A) and the number of forecasts issued per firm-year (Table 3, Panel B) across manipulation and control firms for two periods, one year before the misstatement period and during the misstatement period.[20] If firms provide more earnings guidance in order to conceal

[20] We do not use the year after the misstatement period as a benchmark because Zhu (2010) shows that firms are less likely to issue earnings guidance after restatements, suggesting that restatements might influence earnings guidance decisions. Similarly, for our sample, if manipulations are detected in the year immediately after the misstatement

misstatements, we expect manipulation firms to issue more forecasts than the matched control firms during the manipulation period, but not during the year prior to the manipulation period. Consistent with this prediction, as Table 3 Panel A shows, although the percentages of manipulation and control firms that issue earnings guidance are exactly the same one year prior to the misstatement period (i.e., 35.5%), manipulation firms are significantly more likely to issue earnings guidance during the misstatement period than control firms (i.e., 56.3% versus 42.6%, t=3.15 with p-value<0.01). Such a significant difference during the manipulation period is driven by a much larger increase in forecast issuance for misstatement firms (from 35.5% to 56.3% with t-stat=-3.13) than for control firms (from 35.5% to 42.6% with t-stat=-1.07). The increase in forecast issuance from one year before the manipulation to the manipulation period for misstatement firms (20.8%) is significantly greater than for control firms (7.1%) with t-stat equal to 1.64.

The results based on the number of forecasts per firm year in Table 3 Panel B are similar to those of forecast occurrence in Panel A, except that the difference in the forecast frequency between manipulation and control firms becomes even larger in the subsequent misstatement years (1.231) compared to the corresponding difference in the first misstatement year (0.632). This finding suggests that managers of manipulation firms tend to issue forecasts more frequently as they continue to manipulate earnings, compared to the control firms. Hence, this increase in forecast frequency is likely driven by the manipulation decision, not vice versa, as managers are more likely to have anticipated overstating earnings when issuing earnings forecasts in the subsequent misstatement years than in the first misstatement year.[21] Figures 1

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period, the detection of manipulations could influence management forecast decisions in that year, making the post-misstatement year an improper benchmark year.

[21] As a robustness test, we also restrict our sample to manipulation firms with three or more misstatement years and compare the forecast frequency for the first, the second, and the subsequent misstatement years between the

and 2 depict the forecast issuance and frequency for manipulation and control firms. In summary, the results reported in Table 3 suggest that compared to control firms, manipulation firms are more likely to issue earnings guidance when they commence misstating earnings.

[Table 3 and Figures 1 and 2]

Prior research has shown that forecasting firms are systematically different from non-forecasting firms (e.g., Hirst et al., 2008). Therefore, we next estimate a multivariate logistical regression of forecast occurrence to further examine the association between accounting manipulations and earnings forecast issuance after controlling for those differences.

$$\begin{aligned} FORECAST = {} & b_0 + b_1 MANIPULATE + b_2 ROA + b_3 CHG\_ROA + b_4 CHG\_EMP + b_5 RETURN \\ & + b_6 NEWEQUITY + b_7 NEWDEBT + b_8 ISSUANCE + b_9 SIZE + b_{10} ANALYST \\ & + b_{11} BKMK + b_{12} BETA + b_{13} LITIGATE + \text{Firm Fixed Effects} \\ & + \text{Year Fixed Effects} \end{aligned} \quad (1)$$

where FORECAST is an indicator variable that is equal to one if firm i issues an annual or quarterly EPS forecast in fiscal year t, and zero otherwise; and MANIPULATE is equal to one if firm i manipulated earnings in fiscal year t, and zero otherwise. Both forecasting and manipulation decisions could be driven by firm performance and capital market related incentives (Miller, 2002, Lang and Lundholm, 2000, Dechow et al. 2011). Therefore, in equation (1) we include four performance related control variables and three capital market incentive related variables. The first two performance variables capture accounting performance, return on assets (ROA) and change in return on assets (CHG_ROA) in year t-1, while the next two performance variables are market adjusted stock return (RETURN) and abnormal change in employees (CHG_EMP) in year t-1. Dechow et al. (2011) suggest abnormal change in

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manipulation firms and control firms. The sample includes 28 manipulation firms and 28 control firms. We find that the forecast frequency difference between the two groups of firms is concentrated in the third and subsequent misstatement years rather than in the first and second years. The longer the manipulation lasts, the harder it is to argue that managers are not aware of the manipulation at the time of issuing earnings guidance; therefore, this finding provides additional support to our conjecture that the forecast frequency increase is due to manipulation decision, not vice versa.

employees is a useful measure of the underlying economic reality of the firm.[22] We use the amount of newly issued equity in year t+1 (EQUITY) and the amount of newly issued debt in year t+1 (DEBT) to capture the incentives attributable to the capital market. In addition, following Dechow et al. (2011), we include an indicator variable (ISSUANCE) that measures whether the firm has issued any securities in year t+1.

We also control for a number of additional variables that prior research suggests are associated with forecasting. SIZE is measured as the natural logarithm of total assets for firm i at the end of year t -1. Based on prior research (e.g., Kasznik and Lev 1995), firm size is expected to be positively related to disclosure frequency. We define ANALYST as the number of analysts following firm i as of the beginning of year t-1. A number of prior papers (e.g., Lang and Lundholm 1993) document a positive association between analyst following and disclosure quality. BKMK is the ratio of book value to market value of equity for firm i at the end of year t-1. Market to book (the inverse of our measure) is used by Bamber and Cheon (1998) to proxy for proprietary costs. BETA is calculated as the coefficient from estimating Sharpe's (1964) market model over year t -1. To control for the likelihood of litigation, we follow Francis et al. (1994) by using a qualitative variable LITIGATE to indicate membership for firm i in litigious industries. All variables are defined in Table 1 Panel B.

We estimate this model using firm-year observations before and during the misstatement period. By including firm fixed effects and year fixed effects, Model (1) is essentially a difference-in-differences specification that is similar to the methodology in Armstrong et al. (2011) and Bertrand and Mullainathan (2003). This analysis uses both manipulation firms over

[22] Following Dechow et al. (2011), we measure abnormal change in employees as the percentage change in the number of employees less the percentage change in total assets. Dechow et al. (2011) argue that this measure might capture the underlying firm performance if assets are overstated and the change in number of employees is not likely overstated. In addition, managers might reduce employee headcount in an attempt to increase earnings.

time (one year before misstatement and misstatement period) and matched non-manipulation firms over the same period as the control group. The coefficient on MANIPULATE, b_1, represents the difference between manipulation firms and matched control firms in the change of forecast issuance from one year before manipulation to the manipulation period. In other words, when we estimate whether the misstatement firms significantly increase the likelihood of forecast issuance during the manipulation period, our benchmark is the change in forecast issuance of matched non-manipulation firms during the same period. This specification allows us to better control for firm-specific sticky earnings guidance strategies and time-series earnings guidance trends.

The regression results are reported in Table 4. The coefficient on MANIPULATE is significantly positive (p-value =0.005), suggesting that manipulation firms are more likely to issue EPS forecasts. In terms of control variables, we find that firms with increases in return on assets have a greater propensity to issue EPS forecasts, consistent with Miller (2002). However, interestingly, the issuance of EPS forecasts appears to be negatively associated with annual market-adjusted buy and hold stock returns (RETURN) and change in the number of employees (CHG_EMP). One possible explanation for this result is that the decline in these two performance variables is correlated with increased demand for information from investors, which results in more forecast issuance. In addition, the issuance of EPS forecasts is positively associated with the amount of equity issuance (NEWEQUITY) and the number of analyst following (ANALYST), consistent with prior studies (e.g., Lang and Lundholm 1993; Lang and Lundholm 2000).[23]

[23] The insignificant coefficient estimate on SIZE may be due to the significant and positive correlation between SIZE and ANALYST. We find that SIZE becomes positively associated with FORECAST when we exclude ANALYST from the regression.

In sum, we investigate how manipulation firms change their forecast issuance when they start manipulation by conducting (1) a univariate cross-sectional analysis (Table 2, Panel A), (2) a univariate difference-in-differences analysis (Table 3), and (3) a multivariate difference-in-differences analysis (Table 4). All three analyses unanimously show that manipulation firms are more likely to issue earnings forecasts during the misstatement period than matched non-manipulation firms.[24]

As manipulation firms self-select in misstating their earnings, the difference in the likelihood of management forecast issuance between manipulation and control firms could be driven by omitted variables that are correlated *both* with the self-selection choice to misstate earnings, and the decision to issue management forecasts. However, there are three reasons why we do not think that the omitted variables are likely to drive our findings. First, to control for the potential correlated omitted variables problem described above, in Equation (1), we include the determinants of management forecast decisions that prior research has documented.[25] Second, we conduct a difference-in-differences analysis. To the extent that potential correlated omitted variables are constant across years, this analysis helps to mitigate the omitted variable concern

[24] If manipulation firms are more likely to issue earnings guidance during the misstatement years than matched control firms, after controlling for other determinants of the earnings guidance decision, as our results indicate, including earnings guidance would be incrementally useful in predicting accounting misstatements. Therefore, we estimate a regression in which accounting manipulation is the dependent variable using our sample. The independent variables include forecast issuance and the eight predictive variables identified by Dechow et al. (2011) (e.g., total accruals, change in accounting receivable, change in earnings, having operating leases etc.). The coefficient on forecast issuance is significantly positive (i.e., coefficient estimate=0.450 and p-value=0.045) after controlling for the other predictive variables. This finding provides further support that manipulation firms are more likely to issue earnings guidance after controlling for other factors associated with misstatements..

[25] The two variables that we do not control for are corporate governance and executive compensation. Including corporate governance or executive compensation variables would significantly reduce our sample size. Further, prior research documents that poor corporate governance is positively associated with accounting manipulations (Dechow et al., 1996), but negatively associated with the likelihood of management forecast issuance (Ajinkya et al., 2005). Therefore, excluding corporate governance in our regression model is likely to bias against our finding a higher likelihood of issuing forecasts for manipulation firms. Regarding equity compensation incentives, prior research shows that equity compensation incentives are positively associated with management forecast frequency (Nagar et al., 2003). However, the evidence on the association between CEO equity compensation and accounting misstatements is rather mixed (e.g., Erickson et al., 2006, Efendi et al., 2007; Armstrong et al., 2010). Thus equity-based incentive compensation is unlikely to be an alternative explanation, either.

caused by self-selection. Finally, Baginski et al. (2011) using the propensity score matching method to identify control firms, also find that manipulation firms increase their earnings guidance issuance during the fraud period relative to the pre-fraud period.

[Table 4]

H1 also predicts that forecasted EPS is more consistent with the original misreported earnings rather than the restated earnings. To investigate this, we compare the annual management forecast error based on the misreported earnings ((misreported EPS – management earnings forecast)/stock price at the end of the previous year) with the forecast error based on the restated earnings ((restated EPS – management earnings forecast)/stock price at the end of the previous year) for manipulation firms.[26] We restrict our analysis to manipulation firm-year observations during which at least one annual point or range EPS forecast was issued (i.e., we exclude open-ended and qualitative annual forecasts from the sample), which reduces the sample size to 69 firm-year observations. Reading through the subsequent 10-K filings or amended 10-K filings for the 69 firm-year observations, we are able to identify restated earnings for 45 firm-year observations. Because management earnings forecasts and the reported EPS in the CIG data are likely to be pro forma earnings based and the restated EPS is GAAP based, we use the following method to back out the restated pro forma EPS. First, we calculate the difference between restated earnings and the original misreported earnings in the 10-K filings (restated earnings – misreported earnings, as disclosed in Compustat). Second, we scale the difference by the number of shares used to calculate the EPS to obtain the restatement amount per share. Finally, we subtract the restatement amount per share from the pro forma based reported EPS in the CIG data to obtain the restated pro forma EPS.[27]

[26] We focus on annual EPS forecast error because quarterly restated earnings are often not available.
[27] One implicit assumption is that the restatement adjustment only applies to earnings before exclusions for pro forma earnings. This assumption is consistent with McVay (2006), which provides evidence consistent with

As shown in Table 5, the mean forecast error based on misreported EPS is -0.004.[28] In contrast, the mean forecast error based on restated EPS is -0.050, which is 12.5 times larger than the mean forecast error based on misreported annual EPS. The difference in these two forecast errors is statistically significant at the one percent level. The median test yields a similar result. The median forecast error based on misreported EPS is zero while the median forecast error based on restated EPS is significantly negative. The absolute values of the forecast errors based on restated EPS are also significantly larger than those based on misreported EPS for both mean and median tests. Overall, forecasted EPS is much more consistent with misreported EPS than actual EPS. Taken together, the findings reported in Tables 2-5 suggest that manipulation firms are more likely to issue earnings forecasts during misstatement years than non-manipulation firms, and earnings forecasts issued by manipulation firms are more consistent with misreported earnings than the actual restated earnings.

[Table 5]

To test H2 that it takes longer to detect misstatements for manipulators issuing earnings forecasts, we first collect data, through a Dow Jones News Wire search, on the dates when the accounting manipulations were discovered and publicly disclosed. We obtain the first misstatement announcement by searching from the beginning of the misstatement period to the date when the AAER is finally publicly released. While H2 focuses on how forecast issuance affects the timeliness of manipulation detection, it is possible that the timeliness of manipulation detection could also influence forecast issuance decisions. Specifically, given that information disclosures in the market are likely to precede discovery of the misstatements and the magnitude of the effort required to conceal the true earnings will grow with time, managers are likely to

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managers having strong incentives to inflate the core earnings (similar to pro forma earnings) than the bottom-line net earnings.

[28] If a firm issues more than one forecast in a year, we take the average of all forecasts issued during that year.

sense a higher detection risk as they get closer to the ultimate date of detection. For example, managers might find it more difficult to conceal a fraud when the accumulated misstatement increases over time and when outsiders raise questions about accounting issues. As a result, managers may be more likely to issue forecasts in order to conceal or delay the detection of accounting manipulations. Following Field et al. (2005), we address this endogeneity issue by using the following simultaneous equations model to test H2.

Equation (2a) (modeling firms' earnings forecast decisions):

$$\text{FORECAST} = \gamma_0 + \gamma_1\text{MONTH\_DETECT} + \gamma_2\text{SIZE} + \gamma_3\text{MKBK} + \gamma_4\text{LEVERAGE} + \gamma_5\text{ROA} + \gamma_6\text{BETA} + \gamma_7\text{ANALYST} + \gamma_8\text{LITIGATE} + \gamma_9\text{REGFD} + \gamma_{10}\text{PRE\_FORECAST} \quad (2a)$$

Equation (2b) (modeling the timeliness of manipulation detection)

$$\text{MONTH\_DETECT} = b_0 + b_1\text{FORECAST} + b_2\text{SEC\_HEADCOUNT} + b_3\text{BIGN\_AUDIT} + b_4\text{SOX} + b_5\,\text{ROA} + b_6\,\text{SIZE} + b_7\,\text{LEVERAGE} + b_8\,\text{LITIGATE} \quad (2b)$$

where MONTH_DETECT is the number of months from the end of each misstated fiscal year (i.e., firm i in year t) to the month of the detection date. It captures the lead time remaining for the SEC to detect each firm-year's accounting manipulation, with smaller values being "higher detection risk." The mean of MONTH_DETECT is 19.4 months and the median is 18 months. All other variables are defined in Table 1, Panel B.

Equation (2a) investigates whether the risk of detection affects a firm's decision to issue earnings forecasts. We expect that managers of firms facing a high detection risk would be more likely to issue earnings forecasts (i.e., γ_1 in equation (2a) to be negative).[29] Equation (2b) examines whether issuing earnings forecasts affects the risk of detection. We expect b_1 in equation (2b) to be positive if management earnings forecasts are effective in reducing the likelihood of detection and delaying accounting manipulations from being discovered.

[29] The simultaneous equations model is estimated within manipulation firm-years (i.e., excluding matched control firm-years). Hence, we do not use a difference-in differences specification in Equation (2a) by including firm and year fixed effects. Instead, we include PRE_FORECAST and REGFD as instrumental variables.

To estimate this system of simultaneous equations, we need to identify instrumental variables that are not directly related to MONTH_DETECT but are related to FORECAST in equation (2a), and vice versa for equation (2b). The instrumental variables in equation (2a) are PRE_FORECAST and REGFD. The variable PRE_FORECAST is equal to one if a firm issues at least one earnings forecast in the year immediately preceding the first manipulation year, and zero otherwise; REGFD is equal to one if the fiscal year end of a firm-year is after October 2000, and zero otherwise. Since management forecast issuance is relatively sticky, PRE_FORECAST is likely to be positively associated with FORECAST. Because PRE_FORECAST is based on the management forecast decision before manipulation starts, PRE_FORECAST is unlikely to be related to manipulation and therefore, also unlikely to affect the risk of manipulation detection. Similarly, prior studies have documented that firms are more likely to issue forecasts after Regulation FD (e.g., Heflin et al. 2003) even though REGFD is unlikely to directly affect the risk of manipulation detection. The instrumental variables in equation (2b) are SEC_HEADCOUNT, BIGN_AUDIT, and SOX. SEC_HEADCOUNT is the log number of the SEC staff; BIGN_AUDIT is equal to one if a firm is audited by a big N auditor, and zero otherwise; SOX is equal to one if the fiscal year end of a firm-year is after November 2002, and zero otherwise. We expect the detection risk to be higher with greater SEC resources, higher audit quality, and after the effective date of the Sarbanes Oxley Act. However, those variables are unlikely to directly affect management forecast issuance decisions.

The estimation results of the simultaneous equations are reported in Table 6. Column (1) reports the logistic regression results for Equation (2a). The coefficient on MONTH_DETECT is significantly negative at the five percent level, suggesting that firms with higher detection risk (i.e., lower MONTH_DETECT, implying that the firm is getting closer to the manipulation

detection date) are more likely to issue earnings forecasts, consistent with our prediction. The coefficient on one instrumental variable in Equation (2a), PRE_FORECAST, is significantly positive (at the one percent level), even though the coefficient on the other instrumental variable, REGFD, is not. Among other control variables, it appears that larger firms (SIZE) and firms with better operating performance (ROA) are more likely to issue earnings forecasts, consistent with prior research. Turning to Equation (2b), the second part of the simultaneous equation where MONTH_DETECT is the dependent variable, the significantly positive coefficient on FORECAST suggests that it takes longer to detect an accounting manipulation when the firm issues earnings forecasts, consistent with H2. The coefficients of three instrumental variables, SEC_HEADCOUNT, BIGN_AUDIT, and SOX are all significantly negative. This result is consistent with our expectation that greater SEC resources, higher auditor quality, and the effectiveness of the Sarbanes Oxley Act likely lead to more timely detection of accounting manipulations. Among other control variables, we find that the detection of manipulations is more timely for larger firms (SIZE), low growth firms (MKBK), and firms with higher litigation risk (LITIGATE).

[Table 6]

Our last hypothesis relates to the legal costs associated with issuing forecasts during the manipulation period. We first analyze legal penalties for manipulation firms after detection, specifically shareholder class action lawsuits and SEC lawsuit settlement amounts. We obtain lawsuit settlement amounts for 72 manipulation firms from Governance Analytics and Audit Analytics litigation data.[30] We compare the settlement amounts for manipulation firms issuing forecasts with those not issuing forecasts. As presented in Table 7 Panel A, the univariate results

[30] We are able to obtain settlement amounts for SEC lawsuits for 29 firms in our sample, 2 firms of which have only SEC lawsuit amounts and 27 firms have both SEC lawsuit and class action lawsuit amounts. When we exclude the SEC lawsuit settlement amounts from the total legal costs, our results remain the same.

show that manipulation firms issuing forecasts during the manipulation period, on average, pay $247.8 million (with a median value of $21.4 million) as settlement, while non-forecast manipulation firms only pay $64.1 million (median value is 0.8 million), and the difference is statistically significant. However, these univariate differences appear large and could be driven by other determinants of settlement amounts that vary between forecast firms and firms without forecasts (e.g., firm size, misstatement magnitude etc.). Therefore, we employ the following regression model to test H3 after controlling for other factors that could potentially affect the settlement amount.

$$\begin{aligned} LN\_AMOUNT = {} & b_0 + b_1 FIRM\_FORECAST + b_2 FIRM\_SIZE + b_3 FIRM\_ROA \\ & b_4 FIRM\_LEVERAGE + b_5 FPERIOD + b_6 ABRETURN\_DURING + \\ & b_7 ABRETURN\_POST + Industry\ Indicators \end{aligned} \quad (3)$$

where LN_AMOUNT is the natural log of the class action and SEC lawsuit settlement amounts for firm i. Note that we conduct this analysis at the firm level and all independent variables are defined at the firm level (see detailed variable definitions in Table 1 Panel B). Because the settlement amount is likely to be greater for a more severe manipulation, we control for the manipulation severity using the number of misstatement years, market-adjusted stock returns during misstatement years, and market-adjusted stock returns one year immediately after the misstatement period.[31]

The regression results are reported in Table 7 Panel B. The coefficient on FIRM_FORECAST is significantly positive (p-value = 0.008), suggesting that manipulation firms issuing forecasts pay higher settlement amounts, consistent with H3. The results also show

[31] Alternatively, we can use the misstatement amount to proxy for manipulation severity. This data requirement, however, will further reduce our sample from 70 to 54. The mean of the overstated amount is $1.00 per share, and it is $1.037 per share for forecasters and $0.890 per share for non-forecasters, but the difference between the two groups is not statistically significant. To avoid such a sample reduction, we assume the misstatement amount to be zero when we include the misstatement amount as an independent variable and it is missing. The coefficient on FORECAST remains significantly positive (coefficient=3.852, t=2.45).

that large firms and firms with greater severity of manipulation pay higher settlement amounts. For instance, firms manipulating earnings longer and experiencing lower stock returns one year immediately after the misstatement period pay higher settlement amounts.[32]

[Table 7]

We next examine whether legal penalties are higher for the managers of firms issuing earnings forecasts during the manipulation period compared to managers of other non-forecasting manipulation firms. We gather legal penalty data for CEOs from AAERs by determining whether CEOs were charged by the SEC, and if yes, the various types of legal penalties that were sought by the SEC, ruled by the court, or settled outside of court. We examine three types of legal penalties: (1) being prohibited from serving as an officer, director, or accountant of a public company in the future; (2) fines; (3) criminal charges that usually come with the penalty of prison time or, at least, home detention. The results are reported in Table 8.

Panel A reports univariate results. The manipulation firms issuing at least one earnings forecast during the misstatement period (FIRM_FORECAST=1) have significantly more managers (29% out of 56 firms) being prohibited from being an officer, director, or accountant compared to the manipulation firms not issuing any earnings forecasts (FIRM_FORECAST=0, 10% out of 20 firms); the difference is statistically significant at the 5 percent level. This penalty is substantial for managers because it puts significant constraints on their future labor market opportunities and reduces the value of their human capital. In addition, 36% of the CEOs of manipulation firms issuing forecasts are required by the SEC to pay fines, while this percentage

[32] Assuming that the manipulations are detected within one year after the misstatement period, we expect that the one-year post-misstatement stock returns will capture the misstatement magnitude to some extent (i.e., more severe misstatement is associated with more negative stock market reaction). In addition, our result remains qualitatively the same when we do not control for the stock return one year immediately after the misstatement period (FORECAST coefficient = 3.488, t = 2.18), or when we control for the stock return two years immediately after the misstatement period (FORECAST coefficient = 4.272, t = 2.75).

is 20% for manipulation firms not issuing any earnings forecasts. Similarly, 4% of the CEOs of manipulation firms issuing forecasts undergo criminal charges; in contrast, CEOs of manipulation firms not issuing forecasts are not subject to criminal charges. The above two differences are statistically significant at the 10 percent level. Overall, the results are consistent with H3, that providing earnings guidance is costly for managers of manipulation firms.

Many of the manipulation cases settle without admission of guilt or wrongdoing. In such cases, directors' and officers' insurance often covers managers' monetary penalties (Dyck et al., 2010). Moreover, very few managers face criminal charges. Therefore, being prohibited from serving as an officer, director, or accountant is likely to be the penalty that more directly impacts managers. Following this argument, we estimate a regression using "barred from serving as an officer, director, or accountant" as the dependent variable (Table 8 Panel B). The coefficient on FIRM_FORECAST is 2.948 with a p-value equal to 0.013.[33] Therefore, the multivariate analysis continues to suggest that managers bear substantial legal costs when they also issue earnings forecasts during the misstatement period. The coefficient on FIRM_FORECAST is not significant when we use "having fines" and "having criminal charge" as dependent variables in regression analyses (not tabulated).

[Table 8]

4.2 Additional analyses

Delete the first year of manipulation

An alternative explanation for the increased likelihood of management forecast issuance when firms start to manipulate earnings is reverse causality, i.e., firms issue *ex post* overoptimistic management forecasts, and then manipulate their earnings to be consistent with

[33] If we include the misstatement amount as an independent variable and assume it to be zero when it is missing, FORECAST continues to be statistically significant (coefficient=2.974, Chi-square statistic=4.916).

their forecasts (Kasznik 1999).[34] This alternative explanation, however, cannot explain our finding that firms are more likely to issue earnings guidance when the risk of manipulation detection is high. To alleviate the concern of reverse causality further, we repeat our analyses on management forecast characteristics after deleting the first year of manipulation. In the manipulation years subsequent to the first year, managers are aware that they have managed earnings in the past and are more likely to anticipate future earnings manipulations when making earnings guidance decisions. Our results after removing the first year of manipulation are qualitatively similar to our overall sample results. Specifically, manipulation firms are more likely to issue EPS forecasts in a difference-in-differences analysis (the coefficient on MANIPULATE = 1.521, p-value = 0.093). The forecast numbers continue to be more consistent with manipulated earnings. The mean (median) of M_EARNING - FORECAST is -0.005 (-0.002), while the mean (median) of R_EARNING - FORECAST is -0.066 (-0.024).

Frequency of management forecasts

We have used whether firms issue forecasts (i.e., an indicator variable) to test our hypotheses. In this section, we investigate the robustness of our results by focusing on the frequency of management forecasts. We measure the frequency using the log number of management forecasts issued per firm year. The untabulated results for Equation (1) show that manipulation firms issue more EPS forecasts in a difference-in-differences analysis (the coefficient on MANIPULATE = 2.149, p-value = 0.001). In addition, manipulation firms pay higher settlement amounts if they issue more forecasts during the manipulation period (the coefficient on FORECAST = 1.593, p-value= 0.026). CEOs are also more likely to be barred from serving as officers, directors or accountants when they issue more earnings forecasts during the misstatement period (the coefficient on FORECAST = 0.549, p-value= 0.102). However,

[34] This concern of reverse causality applies only to our H1 analyses, not H2 or H3.

although the likelihood of issuing forecasts is negatively associated with the timeliness of manipulation detection, the frequency of forecasts does not appear to delay manipulation detection.

Walking down analyst forecasts as an alternative explanation

Prior studies have found that firms issue earnings guidance to walk analyst forecasts downward and to meet or beat analyst forecasts (e.g., Matsumoto 2002; Cotter et al. 2006). In this section, we investigate whether manipulation firms increase their earnings guidance frequency during the manipulation period to walk down analyst forecasts rather than to conceal the manipulation. We measure the total walk down amount by the difference between the first consensus analyst EPS forecast and the last management EPS forecast for the same reporting period, scaled by stock price at the end of prior year. We do not find significant differences in the total walk down amount between manipulation firms and non-manipulation firms, suggesting that the incentive to walk down analyst forecasts does not lead to an increased likelihood of forecast issuance for manipulation firms.

Forecast issuance and the type of whistleblowing

Corporate fraud can be brought to light by various agents, including equity investors, media, analysts, auditors, employees, and regulators (Dyck et al., 2010). While in Section 4 we investigate whether earnings guidance issued by earnings manipulators influences *when* the misstatements are detected, in this section we investigate whether management forecasts also affect *who* detects the earnings manipulations. We expect that, by issuing earnings guidance, firms would avoid or delay manipulation detection by the potential whistleblowers who tend to rely more on publicly available information such as management earnings guidance.

Dyck et al. (2010) identify the type of fraud whistleblower for 216 cases of alleged corporate frauds.[35] Merging their sample with ours results in a rather small sample of 56 firm-year observations (i.e., 18 unique firms). The whistleblowers in the merged sample are equity investors, media, auditors, employees, and firms themselves. We expect equity investors to rely more on management forecasts than other types of whistleblowers, as some of the latter are likely to have access to private information (e.g., employees). We find that investors are not whistleblowers for any manipulation firms that issue at least one earnings forecast during the manipulation period (i.e., 0 out of 10 firms), while investors are whistleblowers for one firm (i.e., 12.5 percent, 1 out of 8 firms) that never issued earnings forecasts during the manipulation period. Given that the manipulation can potentially be revealed in any of the misstatement years, we also conduct a firm-year analysis. While investors are not whistleblowers for any firm years with earnings guidance (i.e., 0 out of 39 firm-year observations), investors are whistleblowers for 23.5 percent of firm-year observations without earnings forecasts (i.e., 4 out of 17 firm-years). The difference between the two groups is significance at the one percent level. These results provide some evidence consistent with the conjecture that issuing earnings guidance reduces the likelihood of manipulations being detected by investors. However, we do acknowledge that the merged sample is rather small and these results should be interpreted cautiously.

5. Conclusions

Firms and managers engaging in accounting manipulations face severe penalties if the misstatements are detected. Therefore, they have strong incentives to take actions to conceal these manipulations as long as possible. Because management earnings guidance is an important voluntary disclosure mechanism that preempts at least a part of the earnings news, manipulation

[35] This data are available at http://faculty.chicagobooth.edu/adair.morse/research/data.html. We note that their sample of fraud cases covers a wide range of frauds, not limited to accounting misstatements.

firms are likely to strategically adjust their guidance to conceal misstatements. Consistent with this conjecture, we find that firms manipulating earnings increase the frequency of earnings guidance reports. The forecasted earnings are closer to the misreported earnings rather than the true, restated earnings. Also, this earnings guidance strategy appears to be at least partially successful, as the guidance issued by earnings manipulators delays detection of the misstatements. Manipulation firms and managers, however, also face greater legal penalties when earnings manipulations are detected, if they choose to also issue misleading earnings guidance.

Our paper constitutes some of the first empirical evidence on the interrelationship between manipulated mandatory disclosures and voluntary earnings guidance. Overall, we find that when firms choose to manipulate their mandated earnings, they also tend to falsify their earnings guidance, thus worsening the financial disclosure environment.

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Figure 1: Forecast issuance for one year before the misstatement period and during the misstatement period

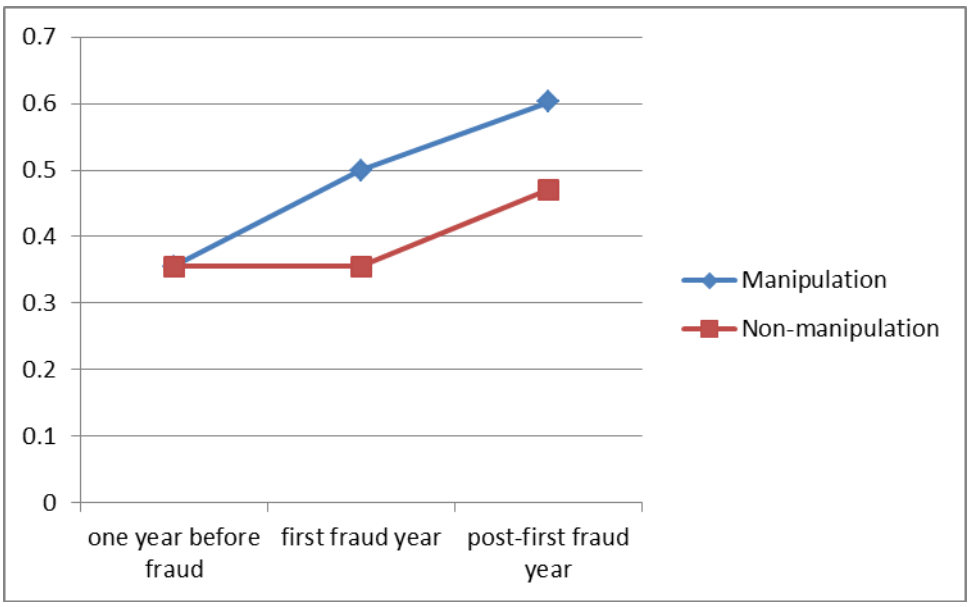

Figure 2: Forecast frequency for one year before the misstatement period and during the misstatement period

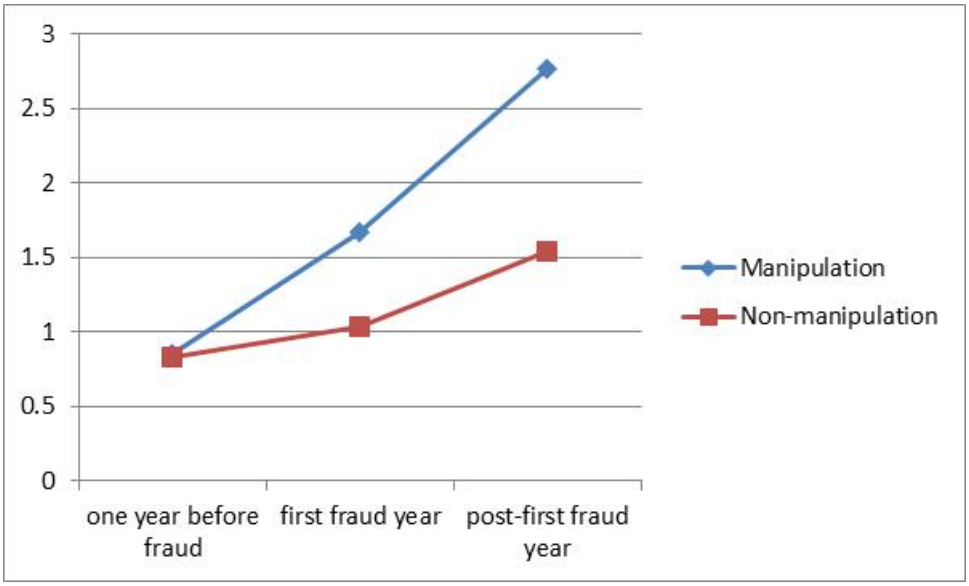

Table 1: Sample Selection and Variable Definitions

Panel A: Sample Selection

No. of accounting manipulation firms with cnum	415
Less: No. of accounting manipulation firms for which manipulations occurred prior to 1994	(227)
No. of manipulation firms involved in serious accounting manipulations since 1994	188
No. of manipulation firms involved in accounting manipulations for at least two years	94
No. of manipulation firms that misstated earnings upward	91
No. of manipulation firms with fiscal year, total assets and industry data	76
No. of corresponding manipulation firm-years	197
No. of matched firms	76
No. of matched firm-years	197

Panel B: Variable Definitions

Variable	Definition
MANIPULATE	An indicator variable that is equal to one if firm i manipulated earnings in fiscal year t, and zero otherwise.
Forecast variables	
FORECAST	An indicator variable that is equal to one if firm i issued an EPS management forecast in fiscal year t, and zero otherwise.
ForecastNumber	Total number of EPS forecasts issued in fiscal year t, conditional on the firm issuing at least one forecast.
SPECIFICITY	Equal to 1 if it is a qualitative EPS forecast, 2 if it is a maximum or minimum EPS forecast, 3 if it is a range EPS forecast, and 4 if it is a point EPS forecast, conditional on the firm issuing at least one forecast.
NEWS	(Management EPS forecast – prior analysts EPS forecast) scaled by the stock price at the end of last year
NEWSDUM	Equal to 1 if the EPS forecast is good news compared to analysts' forecast, -1 if the EPS forecast is bad news compared to analysts' forecast and zero otherwise.
NEWSTONE	Equal to 1 if the tone of the EPS forecast is positive, -1 if the tone is negative, and zero otherwise.
BIAS	An indicator variable that is equal to one if the EPS forecast is optimistic (i.e., forecast is greater than reported earnings), and zero otherwise.
ABSERROR	Absolute value of EPS forecast errors: Abs(reported earnings – forecasted earnings) scaled by the stock price at the end of last year.

HORIZON	The number of days prior to the fiscal period-end when the management EPS forecast is issued
Other variables	
SIZE	Natural log of total assets of firm i at the end of the fiscal year t-1.
ANALYST	The number of analysts following firm i in year t-1.
BKMK	Book value divided by the market value of firm i at the end of fiscal year t-1.
BETA	The slope coefficient from estimating Sharpe's (1964) market model using daily return data of firm i for fiscal year t-1.
ROA	Income before extraordinary items divided by total assets of firm i at the end of fiscal year t-1.
CHG_ROA	The change of income before extraordinary items divided by total assets of firm i from year t-2 to year t-1.
CHG_EMP	(Percentage change in the number of employees – percentage change in assets) for year t-1
RETURN	Firm i's 12 months market adjusted buy-and-hold return in year t-1, starting from three months after the fiscal year end.
NEWEQUITY	The amount of new equity issuance in year t+1 divided by total assets at the end of year t.
NEWDEBT	The amount of new debt issuance in year t+1 divided by total assets at the end of year t.
ISSUANCE	An indicator variable coded 1 if the firm issued securities during year t+1, and zero otherwise
LITIGATE	An indicator variable that is equal to one if firm i is in a litigious industry at the end of fiscal year t, and zero otherwise.
REGFD	An indicator variable that is equal to one if the fiscal year end of year t of firm i is after October 2000, and zero otherwise.
PRE_FORECAST	An indicator variable that is equal to one if firm i issues at least one earnings forecast in the year immediately before the manipulation firm starts to manipulate earnings, and zero otherwise.
MONTH_DETECT	The number of months from the end of each misstated fiscal year (i.e., firm i in year t) to the month of the detection date.
SEC_HEADCOUNT	The log number of SEC staff in year t.
SOX	An indicator variable equal to one if the end of fiscal year t of firm i is after November 2002, and zero otherwise.
BIGN_AUDIT	An indicator variable equals one if firm i is audited by a big N auditor in year t-1, and zero otherwise.
LN_AMOUNT	Natural log of class action and SEC lawsuit settlement amounts for firm i.
FIRM_FORECAST	An indicator variable that is equal to one if firm i issues at least one EPS management forecast during the misstatement period, and zero otherwise.
FIRM_SIZE	Natural log of total assets for firm i at the end of the last manipulation year.
FIRM_ROA	Net income divided by total assets for firm i at the end of the last manipulation year.
FIRM_LEVERAGE	Total debt divided by total assets for firm i at the end of the last manipulation year.
FPERIOD	Number of years that firm i misstated earnings.
ABRETURN_DURING	Market-adjusted return for the period when firm i misstated earnings.
ABRETURN_POST	Market-adjusted return for one year after the last misstatement period.

Table 2 Descriptive Statistics
Panel A EPS forecasts

	All forecasts			Annual forecasts			Quarterly forecasts		
	(1)			(2)			(3)		
	Manipulating Firm-years	Non- Manipulating Firm-years		Manipulating Firm-years	Non- Manipulating Firm-years		Manipulating Firm-years	Non- Manipulating Firm-years	
	mean	mean	t-stat.	mean	mean	t-stat.	mean	mean	t-stat.
FORECAST	0.563	0.426	3.15***	0.516	0.336	3.22***	0.451	0.358	1.68*
ForecastNumber	4.180	3.191	1.89*	2.902	2.204	1.93*	2.759	2.710	0.10
SPECIFICITY	2.643	2.531	0.80	2.636	2.786	0.82	2.800	2.474	1.87*
NEWS	-0.003	-0.007	1.59	-0.001	-0.002	0.27	-0.003	0.000	-1.57
NEWSDUM	-0.135	-0.158	0.18	0.128	0.217	-0.55	-0.412	-0.344	-0.47
NEWSTONE	-0.037	-0.174	1.15	0.172	0.212	-0.28	-0.330	-0.354	0.16
BIAS	0.424	0.441	-0.22	0.544	0.589	-0.42	0.287	0.282	0.06
ABSERROR	0.012	0.020	-1.27	0.022	0.017	0.68	0.006	0.012	1.74*
HORIZON	129.420	109.670	1.32	233.200	205.010	1.42	24.937	55.993	2.61**

Table 2 Descriptive Statistics (continued)

Panel B Control variables

	Manipulating Firms	Non- Manipulating Firms		Manipulating Firms	Non- Manipulating Firms	
	mean	mean	t-stat.	median	median	z-stat.
ROA	0.045	-0.029	-3.06***	0.045	0.041	-0.38
CHG_ROA	-0.006	-0.010	-0.23	-0.003	-0.003	0.13
CHG_EMP	-0.348	-0.259	0.27	-0.096	-0.038	2.93***
RETURN	-0.053	-0.071	-0.23	-0.158	-0.152	0.13
NEWEQUITY	0.032	0.045	0.90	0.003	0.005	1.91
NEWDEBT	0.044	0.029	-1.17	0.000	0.000	1.06
ISSUANCE	0.954	0.904	-1.54	1.000	1.000	-1.53
SIZE	6.434	6.057	-1.32	5.964	5.525	-1.66*
ANALYST	1.375	1.221	-1.13	1.386	1.386	-1.00
BKMK	0.526	0.583	0.71	0.430	0.335	-1.40
BETA	0.737	0.822	1.06	0.703	0.788	1.15
LITIGATE	0.267	0.444	2.93***	0.000	0.000	2.89***

FORECAST is an indicator variable that is equal to one if firm i issues an EPS management forecast in fiscal year t, and zero otherwise. All other variables are described in Table 1 Panel B. ***, **, * indicate statistical significance at the 0.01, 0.05, 0.10 level, respectively, under two-tailed tests. Each of the continuous variables is winsorized at 1% and 99% to mitigate outliers.

Table 3 Earnings Guidance of Manipulation and Non-Manipulation Firms

Panel A: forecast issuance, one year before versus during the misstatement period

Percentage of firm-years during which annual forecasts are issued	Before (N=76)	During (N=197)			Difference between before and during (t-value)
		All years	First misstatement year	Subsequent misstatement years	
Manipulation	0.355	0.563	0.500	0.603	-0.208*** (-3.13)
Non-manipulation	0.355	0.426	0.355	0.471	-0.071 (-1.07)
Difference between manipulation & non-manipulation	0.000 (0.00)	0.137*** (3.15)	0.145* (1.89)	0.132** (2.52)	-0.137* (-1.64)

Panel B: forecast frequency, one year before versus during the misstatement period

Percentage of firm-years during which annual forecasts are issued	Before (N=76)	During (N=197)			Difference between before and during (t-value)
		All years	First misstatement year	Subsequent misstatement years	
Manipulation	0.855	2.345	1.671	2.769	-1.490*** (-4.76)
Non-manipulation	0.829	1.345	1.040	1.537	-0.516 (-1.07)
Difference between manipulation & non-manipulation	0.026 (0.10)	1.000*** (4.01)	0.632* (1.82)	1.231*** (3.60)	-0.974*** (-2.68)

***, **, * indicate statistical significance at the 0.01, 0.05, 0.10 level, respectively, under two-tailed tests.

Table 4 Logistic Regression Results on Forecast Occurrence for Manipulation and Non-Manipulation Firms

Dependent Variable: FORECAST				
	Pred. sign	Coeff.	Chi-sqr.	p-value
Intercept		-3.632	2.744	0.098
MANIPULATE	**+**	1.687	6.483	0.005
ROA	+	1.995	0.181	0.335
CHG_ROA	+	7.806	2.792	0.047
CHG_EMP	+/-	-0.369	3.073	0.080
RETURN	+/-	-0.786	4.322	0.038
NEWEQUITY	+	11.721	5.624	0.009
NEWDEBT	+	1.201	0.149	0.350
ISSUANCE	+	0.922	0.496	0.241
SIZE	+	-0.118	0.196	0.658
ANALYST	+	1.340	5.551	0.009
BKMK	+	-0.160	0.052	0.819
BETA	-	0.269	0.159	0.691
LITIGATE	+	-1.970	3.589	0.058
Firm fixed effects		Included		
Year fixed effects		Included		
N =		313		
Likelihood ratio =		256.106		
Pseudo R2 =		0.747		

FORECAST is an indicator variable that is equal to one if firm i issues an EPS management forecast in fiscal year t, and zero otherwise. MANIPULATE is an indicator variable that is equal to one if firm i manipulated earnings in fiscal year t, and zero otherwise. All other variables are described in Table 1 Panel B. P-values are one-tailed for signed expectations and two-tailed for unsigned expectations. Each of the continuous variables is winsorized at 1% and 99% to mitigate outliers.

Table 5 Comparison of Differences between Forecasted and Manipulated Earnings versus Forecasted and Restated Earnings

	N = 45 Mean	t-stat.	N = 45 Median	M-stat.
M_EARNING – F_EARNINGS	-0.004	-2.54**	0.000	-3.5
R_EARNING – F_EARNINGS	-0.050	-3.17***	-0.019	-13.5***
Difference	-0.046	-3.08***	-0.019	-17.0***
ABS(M_EARNING – F_EARNINGS)	0.007	4.92***	0.003	20.0***
ABS(R_EARNING – F_EARNINGS)	0.052	3.36***	0.019	22.5***
Difference	-0.045	-3.02***	0.014	13.0***

M_EARNING is misreported earnings per share scaled by the stock price at the end of previous year. R_EARNING is restated earnings per share scaled by the stock price at the end of previous year. F_EARNINGS is the annual management EPS forecast scaled by the stock price at the end of previous year. ***, **, * indicate statistical significance at the 0.01, 0.05, 0.10 level, respectively, under two-tailed tests.

Table 6 Simultaneous Regression Results Reporting the Timeliness of Detection of Earnings Manipulation for Manipulating Firms Issuing Earnings Forecasts vs. not Issuing Earnings Forecasts

Variable	Equation 1		Equation 2	
	Predicted Sign	Dep. Var. =FORECAST (1)	Predicted Sign	Dep. Var. =MONTH_DETECT (2)
Intercept		-3.706		49.380
		(0.286)		(0.000)
MONTH_DETECT	-	-1.271		
		(0.045)		
FORECAST			+	1.418
				(0.011)
SEC_HEADCOUNT			-	-5.504
				(0.000)
BIGN_AUDIT			-	-0.368
				(0.082)
SOX			-	-1.191
				(0.000)
SIZE	+	0.388	?	-0.107
		(0.003)		(0.103)
MKBK	+	-0.022	?	0.032
		(0.305)		(0.037)
LEVERAGE	-	-0.533	?	0.255
		(0.152)		(0.207)
ROA	+	1.922	?	-0.476
		(0.086)		(0.171)
BETA	+	0.114	?	-0.084
		(0.415)		(0.638)
ANALYSTS	+	0.031	-	-0.009
		(0.264)		(0.254))
LITIGATE	+	-0.331	-	-0.497
		(0.333)		(0.003)
REGFD	+	-0.565		
		(0.240)		
PRE_FORECAST	+	1.245		
		(0.010)		
Likelihood ratio		45.682		
Adj. R-square				32.5%

FORECAST is an indicator variable that is equal to one if firm i issues an EPS management forecast during fiscal year t, and zero otherwise. MONTH_DETECT is the number of months from the end of each misstated fiscal year (i.e., firm i in year t) to the month of the detection date. All other variables are described in Table 1 Panel B. P-values are one-tailed for signed expectations, and two-tailed for unsigned expectations. Number of observations used in this analysis is 131. Each of the continuous variables is winsorized at 1% and 99% to mitigate outliers.

Table 7 The Relationship between Forecast Occurrence and Lawsuit Settlement Amounts

Panel A Univariate Results

	FIRM_FORECAST			FIRM_FORECAST		
	=1	=0		=1	=0	
	N = 52	N = 20		N = 52	N = 20	
	Mean	Mean	t-stat.	Median	Median	Z-stat.
Amount	247,768,000	64,139,000	1.71*	21,425,000	814,500	-3.66***
Ln_Amount	16.425	10.363	3.49***	16.878	13.573	-3.66***

Panel B Regression Results

		Dependent variable: LN_AMOUNT		
	+/-	Coeff.	t-stat.	p-value
Intercept		6.622	1.90	0.062
FIRM_FORECAST	+	**3.854**	**2.47**	**0.008**
FIRM_SIZE	+	0.766	2.19	0.016
FIRM_ROA	+	-1.626	-0.77	0.443
FIRM_LEVERAGE	+	3.334	1.09	0.139
FPERIOD	+	0.888	1.39	0.084
ABRETURN_DURING	+	-0.202	-0.55	0.587
ABRETURN_POST	-	-3.111	-2.11	0.020
Industry Indicators		Included		
N		72		
F-value		3.67		
Adjusted R2		0.403		

LN_AMOUNT is Natural log of class action and SEC lawsuit settlement amounts for firm i. FIRM_FORECAST is an indicator variable that is equal to one if firm i issues at least one EPS management forecast during the misstatement period, and zero otherwise. FIRM_SIZE is the natural log of total assets for firm i at the end of the last manipulation year. FIRM_ROA is net income divided by total assets for firm i at the end of the last manipulation year. FIRM_LEVERAGE is Total debt divided by total assets for firm i at the end of the last manipulation year. FPERIOD is the number of years that firm i misstated earnings. ABRETURN_DURING is market-adjusted return for the period when firm i misstated earnings. ABRETURN_POST is market-adjusted return for one year immediately after the misstatement period. P-values are one-tailed for signed expectations. Each of the continuous variables is winsorized at 1% and 99% to mitigate outliers.

Table 8 The Relationship between Forecast Occurrence and Legal Penalties for Managers

Panel A Univariate Results

	FIRM_FORECAST=1	FIRM_FORECAST=0	
	N = 56	N = 20	
	Mean	Mean	t-stat
Barred from being an officer, director, or accountant	0.29	0.10	2.02**
Having fines	0.36	0.20	1.30*
Having criminal charge	0.04	0.00	1.43*

Panel B Logistic Regression Results

Dependent variable: Barred from being an officer, director, or accountant				
	+/-	Coeff.	Chisq.	p-value
Intercept		1.879	0.685	0.408
FIRM_FORECAST	**+**	**2.948**	**4.886**	**0.013**
FIRM_SIZE	+	-0.448	3.873	0.049
FIRM_ROA	+	-1.290	0.842	0.359
FIRM_LEVERAGE	+	0.188	0.011	0.453
FPERIOD	+	-0.119	0.093	0.761
ABRETURN_DURING	+	0.009	0.002	0.482
ABRETURN_POST	-	1.328	2.540	0.111
Industry Indicators		Included		
N		76		
Likelihood Ratio		23.256		

FIRM_FORECAST is an indicator variable that is equal to one if firm i issues at least one EPS management forecast during the misstatement period, and zero otherwise. FIRM_SIZE is natural log of total assets for firm i at the end of the last manipulation year. FIRM_ROA is net income divided by total assets for firm i at the end of the last manipulation year. FIRM_LEVERAGE is Total debt divided by total assets for firm i at the end of the last manipulation year. FPERIOD is the number of years that firm i misstated earnings. ABRETURN_DURING is market-adjusted return for the period when firm i misstated earnings. ABRETURN_POST is market-adjusted return for one year immediately after the misstatement period. P-values are one-tailed for signed expectations. Each of the continuous variables is winsorized at 1% and 99% to mitigate outliers.