

AN EXAMINATION OF ANALYSTS' TARGET PRICE FORECASTS AFTER
ACCOUNTING MISSTATEMENTS

by

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ABSTRACT

I investigate the magnitude, accuracy, and informativeness of analysts' target price forecast revisions after material negative accounting misstatements. Although prior researchers find that analysts' earnings forecasts decline after misstatements, the effects of misstatements upon analysts' target price forecasts have not yet been investigated. Relative to analysts' target price forecasts for control firms, I find that analysts decrease their target price forecasts more sharply for misstating firms. Although analysts' target price forecast revisions are somewhat less accurate for misstating firms, I find that analysts' target price forecast revisions for misstating firms remain informative to the stock market. Several misstatement and target price forecast characteristics (misstated account, misstatement intention, SEC investigation, and CEO turnover after misstatement) affect the average magnitude, accuracy, and informativeness of analysts' target price forecast revisions. These findings inform investors regarding the extent to which they may effectively rely upon analysts' target price forecasts after material negative accounting misstatements and contribute to our knowledge of the value relevance of historical accounting and future earnings expectations for sell-side analysts.

DEDICATION

This dissertation is dedicated to my beautiful wife, Greta. Without your encouragement, your patience, and your joy for life, this undertaking would not have been successful.

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CHAPTER 1

INTRODUCTION

Material negative accounting misstatements trigger stock price declines, class action lawsuits, a greater likelihood of board and management turnover, increases in bid-ask spreads, and generally evoke significant uncertainty among financial statement users (Palmrose, Richardson, and Scholz 2004; Arthaud-Day, Certo, Dalton, and Dalton 2006; Flanagan, Muse, and O'Shaughnessy 2008). Amidst this uncertainty, investors could benefit from professional research, direction, and guidance regarding the estimated value of misstating firms. Sell-side analysts' target price forecasts could provide this needed direction, but research has not yet investigated how misstatements affect the target price forecasts analysts provide to investors. I contribute to the literature by examining the magnitude, accuracy, and informativeness of analysts' target price forecast revisions after misstatements.

Analysts' target price forecasts provide useful information to investors beyond that which is contained in analysts' earnings forecasts (Womack 1996; Brav and Lehavy 2003; Asquith, Mikhail, and Au 2005). Prior research demonstrates the information value of analysts' target price forecasts in several different ways: Trading strategies incorporating analysts' target price forecast revisions yield positive abnormal risk-adjusted returns beyond those provided by analysts' earnings forecast and stock recommendation revisions (Brav and Lehavy 2003; Asquith et al. 2005; Huang, Mujtaba, and Sankaraguruswamy 2009; Gleason, Johnson, and Li 2013). Analysts' relative target price forecast optimism effectively predicts the relative performance of

industry peers (Da and Schaumburg 2011). Target price forecast revisions are associated with institutional investor trading volume (Lin, Tan, and Zhang 2016). Target price forecasts provide particularly useful direction for investors because they incorporate analysts' expectations of both earnings and discount rates (Da, Hong, and Lee 2016). Accordingly, analysts' target price forecast revisions could provide much-needed direction to investors after accounting misstatements.

Griffin (2003) and Hribar and Jenkins (2004) document that analysts tend to decrease their earnings forecasts after misstatements, but prior literature has not yet investigated whether analysts reduce their target price forecasts after misstatements. Analysts often use a price-to-earnings valuation model, $Price = Earnings / r$, where "r" equals the discount rate required to compensate investors for firm risk, among other factors¹ (Demirakos, Strong, and Walker 2004; Asquith et al. 2005; Demirakos, Strong, and Walker 2010; Imam, Chan, and Shah 2013).² Decreased analyst earnings expectations would reduce the numerator of this valuation model. Misstatements also increase users' assessments of firm risk (Hribar and Jenkins 2004) that would likely increase in the denominator of this valuation model. Therefore, analysts' target price forecasts are likely to decrease more sharply than their earnings forecasts. However, the literature has not yet documented the extent to which analysts revise their target price forecasts

¹ This model assumes zero growth in earnings. In the event of growth in earnings, the firm would be valued as: $Price = Earnings / (r - g)$, where "g" equals the expected rate of earnings growth. In practice, analysts often select a single "valuation multiple" which is equal to $1 / (r - g)$.

² These papers explicitly document analysts' use of this price-to-earnings valuation model. The fundamental valuation literature also documents the usefulness of earnings-based valuation models (e.g., Easton and Harris 1991; Ohlson 1995; Penman and Sougiannis 1998). The discount rate in this equation increases in firm risk and decreases in earnings persistence and growth. My study does not differentiate between the effects of these three factors. However, future research using analysts' full text reports could investigate the factors influencing the selection of analysts' discount rate (valuation multiple) to shed more light on which of these three factors dominates.

after misstatements, nor whether analysts' target price forecast revisions after misstatements are accurate or informative to investors. This study fills these gaps in the literature.

Although misstatements are likely to cause analysts to revise their target price forecasts, there are also reasons why analysts might not revise their target price forecasts after misstatements. Analysts may resist decreasing their target price forecasts in order to maintain strong relationships with management of the firms they follow, whether to maintain an information advantage or to promote investment banking business with their brokerage (Mayew 2008; Soltes 2013; Brown, Call, Clement, and Sharp 2015). Alternatively, analysts may have a desired target price forecast in mind and then "work backwards", adjusting discount rates as necessary to achieve their desired target price forecasts.

After I analyze the magnitude of analysts' target price forecast revisions following misstatements, I investigate whether analysts' target price forecast revisions are accurate and informative. I compare analysts' target price forecast accuracy for misstatement firms relative to propensity score matched control firms. These tests will provide important evidence to investors regarding whether analysts' target price forecasts after misstatements are likely to be realized in future stock returns. I then examine the informativeness of target price forecast revisions by investigating the short-term stock market response to the release of analysts' target price forecast revisions.

After addressing the magnitude, accuracy, and informativeness of analyst target price forecasts at a high level, I investigate the effects of different target price forecast and misstatement characteristics that are likely to affect each of these three outcomes: First, I examine the relative impact of several target price forecast revision inputs: changes in historical accounting earnings and financial position, changes in expected future earnings, and changes in

implied discount rates. Second, I examine the effect of misstatements affecting revenue and core earnings. Third, I examine the effects of intentional (versus unintentional) misstatements. Finally, I examine the effects of various proxies for misstatement severity.

My propensity score matched sample consists of 402 target price forecasts for 185 misstating firms between 2004 and 2017. I match analysts' target price forecasts for misstating firms to target price forecasts for control firms within the same industry / quarters based on their *ex-ante* propensity to misstate. I obtain analysts' target price forecasts for misstatement and control firms before and after the misstating firms' misstatement disclosure dates to assess the extent to which analysts revise their target price forecasts after accounting misstatements (see Figure 2).

Tests of univariate differences as well as multiple regression results provide evidence that misstatements are associated with decreases in analysts' target price forecasts. Analysts' target price forecasts decrease significantly more for misstatement firms than for control firms (misstatement - control = -7.4%, $p < 0.001$), even though evidence does not suggest that analysts' earnings forecasts decrease more for misstatement firms than for control firms (misstatement - control = -0.3%, $p = 0.536$). I provide some evidence that analysts' target price forecasts are less accurate for misstating firms than control firms: analysts' target price forecasts are significantly less likely to be met at the end of the 12-month forecast horizon for misstatement firms relative to control firms, suggesting that analysts may underreact to the stock price consequences of misstatements. Despite this decrease in accuracy, I provide evidence that suggests that analysts' target price forecast revisions for misstatement firms are still informative to the market: analysts' target price forecast revisions are directly proportional to the cumulative abnormal returns in the two days surrounding their target price forecast announcements.

Finally, I explore cross-sectional variation in target price forecast revision magnitude, accuracy, and informativeness based on certain target price forecast and misstatement characteristics. Five themes emerge from the cross-sectional tests: First, I find that target price forecast revision magnitude, accuracy, and informativeness appear to be affected by the presence of a misstatement rather than the magnitude of change to historical accounting earnings or financial position or the magnitude of change to analysts' earnings forecasts. Second, analysts decrease their target price forecasts more sharply after misstatements that affect core earnings, but not for misstatements that affect revenue. Therefore, it is unsurprising that analysts' target price forecasts for misstatements that affect revenue are relatively less informative. Third, analysts decrease their target price forecasts more sharply after intentional misstatements, but apparently insufficiently, because these target price forecasts are less likely to be met during the forecast horizon relative to unintentional misstatements. Fourth, analysts decrease their target price forecasts more sharply and their target price forecasts are more informative for misstatements that are followed by CEO turnover, but these target price forecasts are less likely to be met during or at the end of the forecast horizon relative to misstatements that are not followed by CEO turnover. Finally, analysts do not appear to revise their target price forecasts more sharply downwards for misstatements associated with an SEC investigation, and the market finds these target price forecast revisions to be less informative than target price forecast revisions for misstatements that are not associated with an SEC investigation.

My research potentially contributes to several streams of the accounting and finance literature. I contribute to the literature exploring the value relevance of historical and prospective earnings for sell side analysts (e.g., Breton and Taffler 2001; Barth and Hutton 2004; Bradshaw 2004; Gleason et al. 2013; Yezegel 2015; Brown et al. 2015) by showing that

analysts' response to misstatements appear to be driven by increases in their required discount rates. I also contribute to the literature which examines the impact of misstatements upon market participants including investors, analysts, managers, and directors by providing evidence that analysts decrease their target prices after misstatements (e.g., Beneish 1999; Palmrose et al. 2004; Hennes, Leone, and Miller 2008, 2013; Flanagan et al. 2008; Street and Hermanson 2019). I contribute to the literature that examines the effectiveness of analysts' target price forecasts by providing evidence suggesting that misstatements reduce the accuracy of analysts' target price forecasts (e.g., Brav and Lehavy 2003; Demirakos et al. 2010; Bonini, Zanetti, Bianchini, and Salvi 2010; Bradshaw, Huang, and Tan 2012; Bradshaw, Brown, and Huang 2013; Gleason et al. 2013; Bilinski, Cumming, Hass, Stathopoulos, and Walker 2019; Hashim and Strong 2018). Finally, I contribute to the literature that examines the informativeness of analysts' target price forecasts for investors by providing evidence that investors appear to find analysts' target price forecasts to be informative, even after accounting misstatements (Brav and Lehavy 2003; Asquith et al. 2005; Huang et al. 2009; Da and Schaumburg 2011; Bradshaw et al. 2013; Da et al. 2016; Lin et al. 2016; Joos and Piotroski 2017; Bilinski, Cumming, Hass, Stathopoulos, and Walker 2019).

The remainder of this paper is structured as follows: Chapter 2 motivates this research and documents its originality and contribution to the literature. Chapter 3 reviews prior literature on the subject of analysts' responses to misstatements and develops three testable hypotheses. Chapter 4 describes the data required for this research and identifies the measures and methods of analysis to be used. Chapter 5 presents the main univariate and regression results. Chapter 6 explores cross-sectional variation in the results based on several target price forecast and misstatement characteristics. Chapter 7 describes the robustness of the results of this research to

various research design choices. Chapter 8 concludes by identifying limitations of this study, implications for research and practice, and suggestions for future research.

CHAPTER 2

MOTIVATION AND CONTRIBUTION

A target price forecast is the price an analyst expects a firm's stock to reach at the end of the next twelve months. Investigating whether and to what extent analysts revise their target price forecasts after misstatements is important for three primary reasons: First, target price forecasts are value relevant to investors and could provide direction to investors amidst the uncertainty of a misstatement. Target price forecasts provide incremental value relevant information beyond that which is contained in analysts' earnings forecasts and stock recommendations (Womack 1996; Brav and Lehavy 2003; Asquith et al. 2005). Trading strategies incorporating analysts' target price forecasts yield positive abnormal risk-adjusted returns beyond those provided by analysts' earnings forecasts and stock recommendations (Brav and Lehavy 2003; Asquith et al. 2005; Huang et al. 2009; Gleason et al. 2013). Analysts' target price forecasts effectively predict the relative performance of industry peers (Da and Schaumburg 2011). Target price forecasts provide particularly useful direction for investors because they incorporate analysts' expectations of both earnings and discount rates (Da et al. 2016). Thus, target price forecasts could provide much needed direction to investors amidst the uncertainty surrounding a misstatement (Palmrose et al. 2004).

Second, analyzing analysts' target price revisions after a misstatement provides a valuable setting in which to investigate the relative importance of historical accounting earnings and financial position, future earnings expectations, and discount rates upon analysts' target price

forecasts. Although historical accounting earnings and financial position (Previts, Bricker, Robinson, and Young 1994; Demirakos et al. 2004), analysts' future earnings expectations (Bradshaw 2002; Asquith et al. 2005), and analysts' discount rates (Gleason et al. 2013) have all been shown to affect analysts' target price forecasts, misstatements prompt changes in all three of these factors. This enables an investigation into which of these three factors has the largest influence on analysts' target price forecast revisions.

Third, investigating analysts' target price forecasts extends the literature regarding the effect of different misstatement characteristics (e.g., core earnings effect, intentional or unintentional misstatement, misstatement severity). Some prior literature indicates, surprisingly, that intentional misstatements are associated with *less severe* analyst earnings forecast revisions (Palmrose et al. 2004). Prior research also suggests that investors may not rely on analyst characteristics as much to identify accurate analysts' forecasts after intentional misstatements (Barniv and Cao 2009). My research revisits these counterintuitive findings in a new setting.

Prior literature has not yet examined how analysts revise their target price forecasts after accounting misstatements. The literature has documented that analysts decrease their earnings forecasts after misstatements (Griffin 2003), that market responses to analysts' earnings forecasts are dampened for analysts who were optimistic before a misstatement (Lee and Lo 2016), and even suggests that analysts may pre-emptively discontinue coverage of a misstating firm (Young and Peng 2013). However, research has not examined how analysts revise their target price forecasts after a misstatement. It is important to examine analysts' target price forecasts after a misstatement because these forecasts may provide a very meaningful reference point for investors seeking to value a firm amidst the uncertainty following a misstatement.

CHAPTER 3

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Target Price Forecast Revision Magnitude

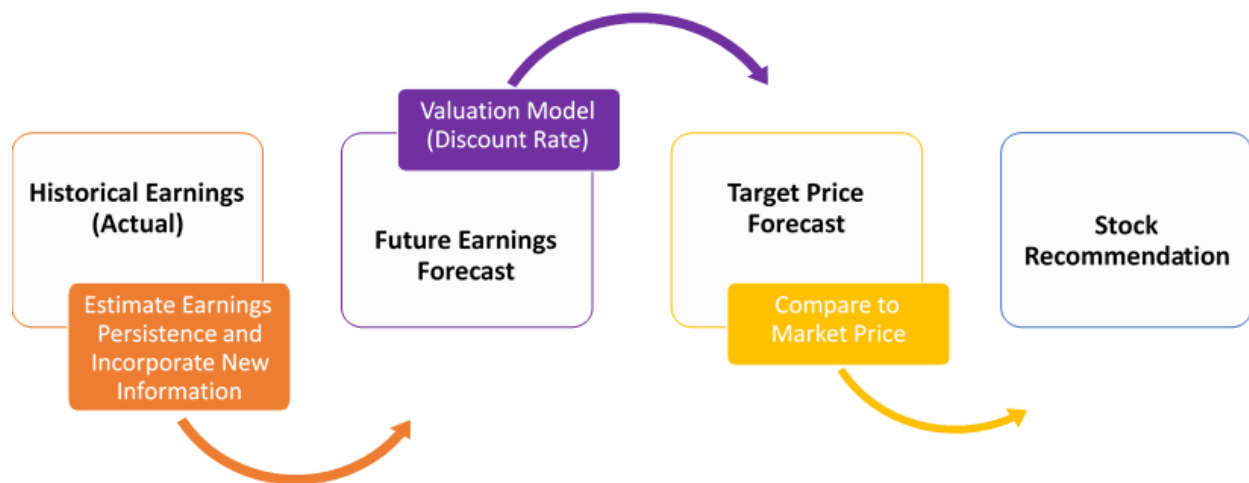
Prior literature has investigated the effect of misstatements upon analysts' coverage and earnings forecasts for misstating firms but has not yet examined the effects of misstatements upon analysts' target price forecasts. Farber (2005) finds that analyst following decreases and does not recover for firms alleged to have committed fraud.³ Young and Peng (2013) find that analysts are more likely to discontinue coverage of a firm rather than downgrade the firm's stock recommendation if they anticipate the firm will disclose fraud. However, these papers do not investigate whether the analysts who *continue to follow* misstating firms provide effective direction to investors via target price forecasts – the focus of my research. Additionally, these papers only examine analysts' response to fraud (intentional misstatements) rather than to misstatements broadly (whether intentional or unintentional).

Because historical earnings may predict future earnings (see Figure 1), prior literature finds that analysts reduce their estimates of a firm's future earnings after the disclosure of a misstatement (Griffin 2003; Palmrose et al. 2004). Under a simple fundamental valuation model, $Price = Earnings / r$, analysts' future earnings forecasts are directly related to their target

³ These studies suggest the possibility that analysts foresee and discontinue their coverage of firms that eventually misstate their earnings. Readers may therefore be concerned about the effects of selection bias upon my study. That is, if some analysts foresee a misstatement and discontinue their coverage, then the actions of the remaining analysts that follow the firm do not generalize to the population of all analysts. However, analysts that discontinue coverage of misstating firms are not of practical interest to my study. My study does not attempt to describe the behavior of *all analysts*. Rather, my study attempts to describe the behavior of the *only analysts that investors can still benefit from* after misstatements: analysts who continue to follow the misstating firm.

price forecast for firms (Bradshaw 2002; Asquith et al. 2005) and analysts are therefore likely to revise their target price forecasts downward after misstatements.

Figure 1: Analysts' Estimate Process



A substantial body of research also indicates that misstatements increase financial statement users' assessments of firm risk. After misstatements, the information content of earnings declines (Wilson 2008), the cost of capital increases (Hribar and Jenkins 2004; Barniv and Cao 2009), and auditors, managers, and directors are more likely to resign or be terminated (Srinivasan 2005; Hennes et al. 2008, 2013; Huang and Scholz 2012; Chakravarthy, deHaan, and Rajgopal 2014; Street and Hermanson 2019). Together, this research suggests that analysts will increase their risk assessments for misstating firms (that is, analysts will increase the discount rates that they use). In the price-to-earnings valuation model that analysts frequently use (Demirakos et al. 2004; Asquith et al. 2005; Demirakos et al. 2010; Imam et al. 2013) discount rates are inversely related to firm value. Therefore, increases in discount rates would result in decreases to analysts' target price forecasts.

Although misstatements are likely to cause analysts to revise their target price forecasts, there are also several reasons why analysts might not revise their target price forecasts after misstatements. First, analysts may resist decreasing their target price forecasts in order to maintain strong relationships with management of the firms they follow (Mayew 2008; Soltes 2013; Brown et al. 2015). Second, analysts may have a desired target price forecast in mind and then “work backwards” (Kachelmeier and Messier 1990), adjusting discount rates as necessary to achieve their desired target price forecasts. Finally, analysts may “cater” to institutional investors, maintaining an optimistic target price forecast to provide institutional investors with liquidity and prop up the value of institutions’ holdings (Chen, Chang, Cheng, and Tu 2016; Bilinski et al. 2019). Whether analysts revise their target price forecasts after misstatements, then, remains an empirical question unanswered in the literature, motivating my first hypothesis:

Hypothesis 1: Analysts decrease their target price forecasts after misstatements.

Target Price Forecast Revision Accuracy

After discerning whether and to what extent analysts revise their target price forecasts for misstating firms, investors would benefit from knowing whether analysts’ target price forecasts are accurate; that is, whether analysts correctly predict future stock prices for misstating firms. The accuracy of analysts’ target price forecasts has been examined in many contexts (Brav and Lehavy 2003; Bonini et al. 2010; Bilinski, Lyssimachou, and Walker 2012; Bradshaw et al. 2013; Gleason et al. 2013; Hashim and Strong 2018), but the accuracy of analysts’ target price forecasts after misstatements has not yet been documented. On the one hand, analysts are sophisticated users of accounting and finance information (Schipper 1991; Libby, Bloomfield, and Nelson 2002), their stock recommendations have outperformed the market at times

(Womack 1996; Barber, Lehavy, McNichols, and Trueman 2003; Mikhail, Walther, and Willis 2004; Li 2005), and 64% of their 1-year ahead stock price targets are achieved at some point in the forecasting window (Bradshaw et al. 2013). On the other hand, the accuracy of analysts' estimates appear to be affected by conflicts of interest (Agrawal and Chen 2008), career concerns (Hong and Kubik 2003), and behavioral biases (Mokoaleli-Mokoteli, Taffler, and Agarwal 2009). Therefore, it remains an empirical question whether analysts' target price forecasts for misstating firms will be accurate. To examine this question, I form the following hypothesis, stated in null form:

Hypothesis 2: The accuracy of analysts' target price forecasts for misstating firms is no different from the accuracy of their target price forecasts for control firms.

Target Price Forecast Revision Informativeness

Integral to the motivation of this paper is the premise that analysts' target price forecasts are informative and provide investors with useful direction regarding their valuation of misstating firms. Some prior literature suggests that analysts' target price forecasts are indeed informative to the market (Asquith et al. 2005; Brav and Lehavy 2003; Huang et al. 2009; Da and Schaumburg 2011; Da et al. 2016), while other literature characterizes analysts' target price forecasts merely as justification or a marketing strategy in support of their stock recommendations (Bradshaw 2002; Bradshaw, Richardson, and Sloan 2003; Arand and Kerl 2015; Chen et al. 2016; Bilinski et al. 2019). Not only is the informativeness of analysts' target price forecasts in general subject to disagreement among scholars, but investors may particularly disbelieve that analysts can effectively form target price forecasts in context of a misstatement.

Investors may therefore find analysts' target price forecasts uninformative after misstatements. I examine this empirical question in the following hypothesis, stated in null form:

Hypothesis 3: After a misstatement, analysts' target price forecasts are uninformative for investors.

CHAPTER 4

DATA AND METHODS

Sample Selection

I begin by identifying 1,567 negative impact non-reliance misstatements from the Audit Analytics database with disclosure dates between 1/1/2004 and 12/31/2017.⁴ In 2004, the SEC began requiring that firms file an 8-K with Item 4.02 to alert market participants if their previously filed financial statements were materially misstated and should not be relied upon. Misstatements are included in my sample if they are flagged as having a “Negative” impact and an “Item 4.02 Non-Reliance Flag” and do not have a positive net income or stockholders’ equity effect.

For clarity, I present an illustrative misstatement timeline in Appendix B. To begin, I obtain the *first* target price forecast issued by each analyst (“Post-Misstatement Disclosure Forecast” in Figure 2) in the year *following* a misstatement disclosure (“Misstatement Disclosure Date” in Figure 2).

⁴ My sample is composed of negative impact non-reliance misstatements. That is, these misstatements decrease reported historical accounting earnings or financial position and are significant enough to cause previously issued financial misstatements to be materially misstated (sometimes referred to as “‘Big R’ restatements”) rather than immaterial error corrections as in Choudhary, Merkley, and Schipper (2019). After notifying investors that they should no longer rely on previously issued financial statements (the “misstatement”), firms are required to reissue these historical financial statements (the “restatement”). I use the term “misstatement” rather than “restatement” throughout this paper to clarify that I examine analysts’ response to these non-reliance *misstatement* disclosures rather than the subsequently *restated* 10-Q and 10-K filings.

My sample begins with 4,462 post-misstatement target price forecasts for misstating firms. I then obtain the *last* target price forecast issued by the same analyst in the year *before* the misstatement disclosure (“Pre-Misstatement Disclosure Forecast” in Figure 2).⁵

I also obtain target price forecasts for analysts following eligible control firms in the one year before and after the misstating firm’s misstatement disclosure date (“Forecasts for Control Firms Before Misstatement Disclosure of Misstating Firm” and “Forecasts for Control Firms After Misstatement Disclosure of Misstating Firm” in Figure 2). My sample begins with 785,246 post-misstatement target price forecasts for control firms. To be eligible to serve as a control firm, I require that a firm come from the same industry and quarter as a misstating firm but never disclose a non-reliance misstatement during my sample period. Due to sample size restrictions, I do not require that the same analyst follow both the misstating firm and the control firm.

To investigate how analysts value earnings, I require that the analyst who provides pre- and post-misstatement disclosure target price forecasts also provides earnings forecasts for *the same earnings period* both pre- and post-misstatement. In the event of multiple applicable earnings forecasts, I retain only the earliest upcoming earnings forecast for which complete data is available.

I require CRSP stock price and return data for up to 1 year after each target price forecast announcement date to assess the market responses to analysts’ target price forecasts. I require Compustat data to calculate matching and control variables. Compustat results are from the last

⁵ In my sample, analysts’ first target price forecasts are typically issued 8 to 97 days after the misstatement disclosure for misstating firms (25th and 75th percentile, respectively), and 16 to 85 days for control firms (25th and 75th percentile, respectively).

quarterly financial statements reported before the disclosure of the misstatement. Refer to Table 1 for sample attrition details.

Table 1: Sample Attrition

	Target Price Forecasts for Misstatement Firms	Target Price Forecasts for Eligible Control Firms
Negative-Impact Non-Reliance Misstatements per Audit Analytics with Subsequent Analyst Target Price Forecasts from IBES Detail	4,462	785,246
Less: Observations without (-5, +5), (-1, +1), and (0, +1) day CAR data and up to 1 year BHAR data from CRSP	-3	-322
Less: Observations with pre-misstatement earnings forecasts for quarters which have elapsed by the time of the misstatement disclosure	-1,519	-235,269
Less: Observations with a post-misstatement target price but no active post-misstatement earnings forecast at target price date	-695	-170,922
Less: Observations missing Compustat data required to calculate propensity score matching and control variables	-1,843	-322,404
<u>Pooled Sample</u>	<u>402</u>	<u>56,329</u>
Less: Unmatched	0	-55,927
<u>Propensity Score Matched Sample</u>	<u>402</u>	<u>402</u>

Prior to propensity score matching the treatment to the control target price forecasts, I have 402 eligible misstatement target price forecasts (for 185 unique firms) and 56,329 eligible control target price forecasts (for 2,565 unique firms). I term this my “Pooled Sample” I propensity score match my misstatement to my control firm observations without replacement based on the firm characteristics shown to predict misstatements by prior literature (Dechow, Ge, Larson, and Sloan 2011; Amel-Zadeh and Zhang 2015) and the control variables used in Tables 4-10. The misstatement prediction model is statistically significant (likelihood ratio chi-square test statistic = 132.64, $p < 0.0001$), indicating that the model predicts misstatements better than random chance. In the notes below Table 2 Panel A to Panel B, I compare the predicted probability of misstatement between treatment and control firms in each sample. The predicted probability of misstatement in the pooled sample shown in Panel A is very different between treatment and control firms ($p = < 0.0001$). After propensity score matching, the predicted probability of misstatement is no longer significantly different between treatment and control firms (see Panel B; $p = 0.9271$). My “Propensity Score Matched Sample” therefore consists of 402 target price forecast and earnings forecast pairs across 185 treatment and 222 control firms.

Although several variables remain significantly different after propensity score matching, my primary identification strategy is an implicit difference and difference design: pre- versus post-misstatement date target price forecast revisions for misstating versus control firms. This strategy continues to identify the effect of restatements even though propensity score matching did not result in a perfect common support between treatment and control firms.

Table 2 Panel A: Pre-Misstatement Descriptive Statistics – Before Matching

Variable Name	Control		Misstate		Difference in Means	P-Value for Difference ≠ 0	N
	Mean	Std. Error	Mean	Std. Error			
MB_CHG	-0.2389	3.0394	0.3077	2.6895	0.5466***	0.0003	56,731
PE_CHG	-0.3099	20.5460	-0.8869	27.5962	-0.5770	0.5758	56,731
CAPEX_CHG	0.0011	0.0262	-0.0007	0.0275	-0.0018	0.1675	56,731
SG	0.2146	0.3728	0.2240	0.4328	0.0094	0.6138	56,731
SIZE	8.0179	1.7861	7.2464	1.3116	-0.7714***	0.0000	56,731
IG	0.0599	2.8091	-0.2112	3.1468	-0.2712*	0.0540	56,731
VOLUME	19.4308	1.5505	19.1121	1.3785	-0.3187***	0.0000	56,731
VOLUME_CHG	0.1032	0.4289	0.1310	0.4366	0.0278	0.1960	56,731
QTR_RETURNS	0.2306	1.0371	0.2866	0.6651	0.0559	0.2802	56,731
MISSTATE	0.0000	0.0000	1.0000	0.0000	1.0000	0.0000	56,731
WC_ACC [†]	0.0847	0.1947	0.0820	0.2567	-0.0027	0.7839	56,731
CH_REC [†]	0.0211	0.0467	0.0149	0.0480	-0.0063***	0.0073	56,731
CH_INV [†]	0.0083	0.0299	0.0099	0.0297	0.0016	0.2769	56,731
SOFT_ASSETS [†]	0.5424	0.2296	0.5285	0.2478	-0.0139	0.2257	56,731
DA [†]	-0.4268	2.3594	-0.7799	4.9623	-0.3531***	0.0031	56,731
CH_CS [†]	479.6658	2,529.2091	121.4186	739.0811	-358.2472***	0.0045	56,731
CH_CM [†]	-1.0895	52.1457	-2.1710	51.6230	-1.0815	0.6786	56,731
CH_ROA [†]	0.0057	0.6346	0.0052	0.1432	-0.0005	0.9875	56,731
TAX [†]	-0.0008	0.0450	-0.0023	0.0227	-0.0015	0.4977	56,731
CH_EMP [†]	-0.0707	0.6447	-0.1350	0.5559	-0.0642**	0.0464	56,731
LEASEDUM [†]	0.9241	0.2648	0.9353	0.2463	0.0112	0.3986	56,731
EXFIN [†]	0.0333	0.1793	0.0473	0.2125	0.0140	0.1190	56,731
ISSUE [†]	0.9891	0.1038	0.9751	0.1559	-0.0140***	0.0073	56,731
CFF [†]	0.0151	0.2001	0.0417	0.2167	0.0266***	0.0080	56,731
LEVERAGE [†]	0.1449	0.1862	0.1783	0.1882	0.0334***	0.0003	56,731
MB [†]	0.2306	1.0371	0.2866	0.6651	0.0559	0.2802	56,731
PE [†]	4.2040	4.6220	4.0258	4.0764	-0.1782	0.4408	56,731
ROA [†]	5.7337	16.1164	5.7510	19.1309	0.0173	0.9829	56,731
LIQUIDITY [†]	8.0180	1.7866	7.2464	1.3117	-0.7716***	0.0000	56,731

[†] Used only in propensity score matching model as a determinant of misstatements

Test of balance for probability of misstatement (before matching):

$$\overline{p(\text{Misstatement}_{\text{Misstating}})} = 0.0093$$

$$\overline{p(\text{Misstatement}_{\text{Control}})} = 0.0071$$

$$T - \text{test: } \overline{p(\text{Misstatement}_{\text{Control}})} = \overline{p(\text{Misstatement}_{\text{Misstating}})}: p < 0.0001$$

Table 2 Panel B: Pre-Misstatement Descriptive Statistics – After Matching

Variable Name	Control		Misstate		Difference in Means	P-Value for Difference ≠ 0	N
	Mean	Std. Error	Mean	Std. Error			
MB_CHG	0.0146	2.9855	0.3077	2.6895	0.2931	0.1440	804
PE_CHG	2.0274	22.1087	-0.8869	27.5962	-2.9143*	0.0988	804
CAPEX_CHG	0.0010	0.0287	-0.0007	0.0275	-0.0018	0.3709	804
SG	0.2035	0.4761	0.2240	0.4328	0.0206	0.5212	804
SIZE	7.1242	1.5817	7.2464	1.3116	0.1223	0.2332	804
IG	0.1850	2.2991	-0.2112	3.1468	-0.3962**	0.0418	804
VOLUME	18.6518	1.4012	19.1121	1.3785	0.4603***	0.0000	804
VOLUME_CHG	0.1288	0.4744	0.1310	0.4366	0.0022	0.9466	804
QTR_RETURNS	0.2791	1.0128	0.2866	0.6651	0.0075	0.9013	804
MISSTATE	0.0000	0.0000	1.0000	0	1.0000	0.0000	804
WC_ACC [†]	0.0504	0.1620	0.0820	0.2567	0.0316**	0.0369	804
CH_REC [†]	0.0183	0.0462	0.0149	0.048	-0.0034	0.3062	804
CH_INV [†]	0.0112	0.0305	0.0099	0.0297	-0.0013	0.5424	804
SOFT_ASSETS [†]	0.5171	0.2447	0.5285	0.2478	0.0114	0.5120	804
DA [†]	-0.5734	2.8773	-0.7799	4.9623	-0.2065	0.4707	804
CH_CS [†]	189.7513	786.8895	121.4186	739.081	-68.3326	0.2048	804
CH_CM [†]	-2.2710	21.4111	-2.1710	51.623	0.1000	0.9714	804
CH_ROA [†]	-0.0387	0.3879	0.0052	0.1432	0.0439**	0.0337	804
TAX [†]	0.0008	0.0223	-0.0023	0.0227	-0.0031**	0.0499	804
CH_EMP [†]	-0.0429	0.5357	-0.1350	0.5559	-0.0921**	0.0170	804
LEASEDUM [†]	0.9229	0.2671	0.9353	0.2463	0.0124	0.4926	804
EXFIN [†]	0.0821	0.2748	0.0473	0.2125	-0.0348**	0.0448	804
ISSUE [†]	0.9677	0.1771	0.9751	0.1559	0.0075	0.5262	804
CFF [†]	0.0421	0.3497	0.0417	0.2167	-0.0005	0.9816	804
LEVERAGE [†]	0.1936	0.2952	0.1783	0.1882	-0.0153	0.3804	804
MB [†]	0.2791	1.0128	0.2866	0.6651	0.0075	0.9013	804
PE [†]	3.4089	5.2390	4.0258	4.0764	0.6169*	0.0628	804
ROA [†]	6.9407	18.4770	5.7510	19.1309	-1.1898	0.3700	804
LIQUIDITY [†]	7.1240	1.5821	7.2464	1.3117	0.1224	0.2327	804

[†]Used only in propensity score matching model as a determinant of misstatements

Test of balance for probability of misstatement (after matching):

$$\overline{p(\text{Misstatement}_{\text{Misstating}})} = 0.0093$$

$$\overline{p(\text{Misstatement}_{\text{Control}})} = 0.0094$$

$$T - \text{test: } \overline{p(\text{Misstatement}_{\text{Control}})} = \overline{p(\text{Misstatement}_{\text{Misstating}})}: p = 0.9271$$

Measures

Dependent Variables

All variables are defined in Appendix A. I have identified measures from prior research to test each hypothesis. My dependent variables include measures of changes to earnings forecasts and target price forecasts and measures of the accuracy of target price forecasts. Consistent with Asquith et al. (2005), I calculate the percentage change in analysts' earnings forecasts from before to after the material misstatement disclosure and name the result EARN_REV. I calculate the percentage change in analysts' target price forecasts before and after the misstatement disclosure and name the result TPF_REV.⁶

I use two indicator variables (MET_IN and MET_END) and two continuous variables (SIGNED_ERROR and ABS_ERROR) to measure target price accuracy, following prior research (Asquith et al. 2005; Bilinski et al. 2012; Demirakos et al. 2010). MET_IN takes a value of 1 if the market capitalization of the firm meets or exceeds the analysts' target price forecast multiplied by the outstanding number of shares per IBES *at any time* during the 12 months after the target price forecast is issued, 0 otherwise. MET_END takes a value of 1 if the market capitalization of the firm meets or exceeds the analysts' target price forecast multiplied by the outstanding number of shares per IBES *exactly 12 months after* the target price forecast is issued, 0 otherwise.⁷

⁶ Target price forecasts are recorded in IBES on a per share basis. I convert all target price forecasts to target market capitalization forecasts to ensure comparability over time. Similarly, I convert all earnings per share forecasts to forecasted total earnings. This method ensures comparability despite changes in the number of shares outstanding due to purchases/sales of treasury stock, issuances/redemptions of equity-based compensation, stock splits/reverse splits, etc.

⁷ The difference between "MET_IN" and "MET_END" is best explained by an example: Imagine that an analyst puts a \$10 target price forecast on a firm with 1,000,000 shares outstanding (a \$10mm target market cap) on January 1, 2020. The market capitalization for the firm is \$10.1mm on July 31, 2020 but falls to \$9.5mm on January 1,

SIGNED_ERROR is defined as the difference between target and actual market capitalization at the end of the 12-month horizon, divided by the market capitalization at the beginning of the horizon: $\frac{TPF_q - MC_{q+4}}{MC_q}$, following Bradshaw et al. (2013).⁸ TPF_q refers to analysts' post-misstatement target price forecast multiplied by the number of common shares outstanding at time q, MC_q refers to the market capitalization at time q, and MC_{q+4} refers to the market capitalization one year after the issuance of the target price forecast at time q. ABS_ERROR is the absolute value of SIGNED ERROR, defined consistently with Demirakos et al. (2010) and Bilinski et al. (2012) as $\left| \frac{TPF_q - MC_{q+4}}{MC_q} \right|$.

Hypothesis 4 requires a measure of market informativeness of analysts' target price forecasts. As customary in the literature, I examine short-term cumulative abnormal returns surrounding the event date (in this case, the announcement of analysts' target price forecasts) to assess an event's informativeness. Specifically, I measure the two-trading day cumulative abnormal return around the announcement of each analyst's target price forecast for each firm and term the result [0, +1] CAR.

Independent Variables of Interest

MISSTATE is an indicator variable taking the value one for firms which disclose an 8-K Item 4.02 negative-impact misstatement and zero otherwise (i.e., control firms). MISSTATE_PROP_EQUITY is defined as the cumulative misstatement impact on stockholder's equity divided by the pre-misstatement book value of stockholder's equity. The interaction

2021. The indicator variable "MET_IN" will be set to 1 while the indicator "MET_END" will be set to 0 because the target market capitalization was met *at some point in* the year but was not met *at the end* of the year.

⁸ I follow Bradshaw et al. (2013) and do not incorporate dividends into realized or forecasted returns.

between the misstatement indicator variable, MISSTATE, and EARN_REV is named MISSTATE x EARN_REV.

Hypothesis 2b requires identifying the accounts affected by each firm's misstatement. I utilize the Audit Analytics Reasons/Issues taxonomy to test my hypotheses.⁹ CORE is an indicator variable taking a value of one if the misstatement affects core earnings – recurring earnings from normal operations, following Palmrose and Scholz (2004) – and zero if the misstatement only affects non-core earnings. REV is an indicator variable taking a value of one if the misstatement affects revenues and zero if the misstatement does not affect revenues. Refer to Appendix D for a list of Reasons / Issues in Audit Analytics that I classify as affecting core earnings and revenue.

Hypothesis 2c requires determining whether each misstatement was intentional or unintentional. I classify misstatements as intentional and set the indicator variable IRREGULARITY_HLM to 1 if the misstating firms' 8-K Item 4.02 disclosures contains variants of the words "irregularity", "fraud", "investigation", following Hennes et al. (2008). For robustness, I use a broader keyword search, adding the search terms "criminal" and "intentional" (following Audit Analytics)¹⁰ and term this broader indicator variable IRREGULARITY_AA.

Hypothesis 2d requires identifying several proxies for misstatement severity. All of the following are indicator variables, set to 1 if the misstatement is severe and 0 otherwise. CEO_XOVER_365 signifies that a misstating firm replaced its CEO within one year after the misstatement disclosure (per Execucomp). AUD_XOVER_365 signifies that a misstating firm

⁹ Prior researchers have used the Audit Analytics misstatement taxonomy to address their own questions (Schmidt and Wilkins 2013; Demirkan and Fuerman 2014).

¹⁰ These keywords were identified by directly inquiring with Audit Analytics regarding the criteria they use to distinguish irregularity from error misstatements.

changed its external auditor within one year after the misstatement disclosure (per Audit Analytics). SCA_LAWSUIT_FLAG signifies that shareholders filed a securities class action lawsuit after the misstatement (per Audit Analytics). SEC_INVESTIG_FLAG signifies that the Securities and Exchange Commission launched an investigation regarding the misstatement (per Audit Analytics). HIGH_QTRS_MISSTATED signifies that the number of quarters of the misstated period exceeds the median for the sample. HIGH_FIN_IMPACT signifies that the magnitude of the misstatement as a proportion of the book value of equity exceeds the median for the sample.

Hypothesis 4 examines whether target price forecasts are informative to the stock market. In tests of this hypothesis, TPF_REV as defined previously serves as an independent variable, together with the interaction TPF_REV x MISSTATE, which takes the value of TPF_REV if the firm misstated its earnings and 0 otherwise.

Control Variables

Control variables are derived from Jegadeesh, Kim, Krische, and Lee (2004), Dechow et al. (2011), and Amel-Zadeh and Zhang (2015). Unless noted otherwise, all change variables are based on the difference between the prior and the current quarter's financial results. CAPEX is defined as the ratio of capital expenditures to total assets. CAPEX_CHG is defined as the change in CAPEX. CFF is defined as net financing cash flows divided by average total assets. CH_CM is defined as the percentage change in cash margin, following Dechow et al. (2011). CH_CS is defined as the percentage change in cash sales. CH_EMP is defined as the percentage change in the number of employees less the percentage change in assets. CH_INV is defined as the change in inventory as a proportion of average total assets. CH_REC is defined as the change in accounts receivable as a proportion of average total assets. DA is defined as the

residual from a modified Jones discretionary accrual model, estimated by industry/year following Dechow et al. (2011). EXFIN is an indicator variable taking the value of 1 if cash flow from operations less the average capital expenditures for the past three years, deflated by current assets is less than -0.5. IG is defined as the year over year percentage growth in net income (excluding discontinued operations and extraordinary items). ISSUE is an indicator variable taking the value of one if the firm issued debt or equity securities during the current year. LEASEDUM is an indicator variable taking the value of one if future operating lease obligations are greater than zero. LEVERAGE is defined as long term debt divided by total assets. LIQUIDITY is defined as the ratio of cash and cash equivalents plus trade receivables to average total assets. MB is defined as the ratio of the market capitalization of common equity to the book value of common equity. MB_CHG is defined as the change in MB. PE is defined as price per share of common equity divided by earnings before extraordinary items per share. QTR_RETURNS is defined as quarterly dividends plus the change in market capitalization divided by prior quarter market capitalization. ROA is defined as income before extraordinary items divided by average total assets, following Amel-Zadeh and Zhang (2015). CH_ROA is defined as the change in ROA. SG is defined as the year-over-year percentage growth in sales. SIZE is defined as the natural log of firm's market capitalization as of the date of the analysts' target price forecast. SOFT_ASSETS is defined as the ratio of total assets less property plant and equipment and cash and cash equivalents to total assets. TAX is defined as the ratio of deferred tax expense to total assets for the prior year. VOLUME is defined as the natural log of common stock trading volume in the three months preceding the earliest disclosure of the misstatement. VOLUME_CHG is defined as the change in VOLUME. WC_ACC is defined following Dechow et al. (2011).

CHAPTER 5

MAIN RESULTS

Univariate Tests of Differences

Table 3 reports the results of parametric differences in means and nonparametric tests of differences in distribution between misstating and propensity score matched control firms. I examine the percentage change in analysts' earnings forecasts and analysts' target price forecasts. In Table 3 Panel A, I verify prior research (Griffin 2003) and confirm that analysts' earnings forecasts for misstatement firms decrease after the disclosure of a material misstatement (t-test: $p < 0.001$; Mann-Whitney test: $p = 0.009$). The decrease in pre- to post-misstatement earnings forecast distributions is insignificantly different between misstatement firms and propensity score matched control firms (t-test: $p = 0.536$; Mann-Whitney test: $p = 0.946$). The insignificant difference in earnings forecast changes between misstatement and control firms provides evidence that the propensity score matching procedure has identified control firms that are similar to their corresponding misstatement firms with respect to their earnings revisions, aside from the presence of a misstatement.

In Table 3 Panel B, I examine the magnitude of analysts' target price forecast revisions. As predicted in Hypothesis 1, the mean and the distribution of analysts' target price forecasts decreases after disclosure of a misstatement (t-test: $p < 0.001$; Mann-Whitney test: $p < 0.001$). I did not form a prediction regarding target price forecast changes for control firms, but I find a significant increase in the distribution of target price forecasts for control firms (t-test: $p = 0.041$;

Mann-Whitney test: $p = 0.003$). As predicted, I find that target price forecasts decrease more sharply for misstatement firms than for propensity score matched control firms (t-test: $p < 0.001$; Mann-Whitney test: $p < 0.001$). These results also indicate that analysts' target price forecasts for misstating firms decrease more sharply than their earnings forecasts.

In Table 3 Panel C, I examine the accuracy of analysts' target price forecast revisions. Relative to propensity score matched control firms, I find evidence that analysts' target price forecasts for misstating firms are significantly less likely to be met at the end of the 12-month forecast horizon (t-test: $p = 0.040$; Mann-Whitney test: $p = 0.040$). Using a non-parametric Mann-Whitney test (though not using a parametric t-test), I find some evidence that analysts' target price forecasts exceed the actual stock prices at the end of 12 months to a greater extent for misstatement firms versus control firms (SIGNED_ERROR t-test: $p = 0.058$; Mann-Whitney test: $p = 0.146$). I fail to detect differences in the accuracy of analysts' target price forecasts using the MET_IN and ABS_ERROR measures. The univariate evidence for Hypothesis 2 is therefore somewhat inconclusive.

In all, univariate tests suggest that analysts revise their earnings forecasts and target price forecasts downward for misstating firms.¹¹ Target price forecast decreases are stronger for misstatement firms than for propensity score matched control firms. Target price forecasts may be somewhat less accurate for misstating firms than control firms. I next investigate whether these findings appear to be attributable to misstatements or to other factors already known to be associated with analysts' target price forecast revisions.

¹¹ Consistent with prior research, I measure the informativeness of analysts' target price forecasts by regressing analysts' target price forecast revision on short-run cumulative abnormal returns surrounding the target price forecast announcement date (Asquith et al. 2005). Thus, Hypothesis 3 does not lend itself to univariate tests.

Table 3: Univariate Tests

Panel A: Tests of Change in Analysts' Earnings Forecast Distributions from Pre-Misstatement to Post-Misstatement

Firm Type	Variable	N	Mean	Median	# Negative	# Zero	# Positive	Alternative Hypothesis	p-value (T-Test)	p-value (Mann-Whitney Test)
Misstatement	EARN_REV	402	-0.072	0.000	183	103	116	$\bar{M} < 0$	< 0.001	0.009
Control	EARN_REV	402	-0.069	0.000	178	103	121	$\bar{C} \neq 0$	0.001	0.015
Misstatement - Control	EARN_REV	804	-0.003	0.000				$\bar{M} - \bar{C} \neq 0$	0.536	0.946

Table 3 Panel B: Tests of Change in Analysts' Target Price Forecasts from Pre-Misstatement to Post-Misstatement

Firm Type	Variable	N	Mean	Median	# Negative	# Zero	# Positive	Alternative Hypothesis	p-value (T-Test)	p-value (Mann-Whitney Test)
Misstatement	TPF_REV	402	-0.052	-0.073	246	3	153	$\bar{M} < 0$	< 0.001	< 0.001
Control	TPF_REV	402	0.022	0.047	170	2	230	$\bar{C} \neq 0$	0.041	0.003
Misstatement - Control	TPF_REV	804	-0.074	-0.120				$\bar{M} - \bar{C} < 0$	< 0.001	< 0.001

Table 3 Panel C: Tests of Differences in the Accuracy of Analysts' Target Price Forecasts

	Proportion of Target Price Forecasts MET_IN	Proportion of Target Price Forecasts MET_END	Average SIGNED_ERROR	Average ABS_ERROR
Misstatement	0.587	0.326	0.177	0.493
Control	0.617	0.396	0.108	0.533
Misstatement – Control	-0.030	-0.070	0.069	-0.040
<i>Two-tailed p-value (T-Test)</i>	0.388	0.040	0.146	0.280
<i>Two-tailed p-Value (Mann-Whitney Test)</i>	0.388	0.040	0.058	0.593

Multiple Regression Results

All regressions were evaluated using calendar year fixed effects, standard errors clustered by firm, and with probability weighting such that each firm's weight totals to one (rather than assigning equal weight to each analyst and thus disparate weights to heavily versus lightly followed firms). I first investigate whether misstatements are associated with an analysts' target price forecast revision magnitude in Table 4. The coefficient of MISSTATE is negative and statistically significant in both Model 1 ($\beta = -0.101$, $p < 0.001$) and Model 2 ($\beta = -0.084$, $p < 0.001$). These regressions provide evidence that analysts' target price forecast revisions after misstatements are attributable to the misstatements rather than other factors known to be associated with target price forecast revisions. Propensity score matching leads to insignificant coefficients for most of the control variables in this and following regressions. This evidence supports Hypothesis 1: Analysts revise their target price forecasts downward for misstating firms.

Table 5 provides evidence regarding whether misstatements affect the accuracy of analysts' target price forecasts as measured by four dependent variables from prior research. Model 1, estimated by logistic regression, assesses the probability of the analyst's price target being met at any point in the next 12 months. The coefficient estimate for MISSTATE in Model 1 is negative but insignificant ($\beta = -0.457$, $p = 0.108$). Holding all other variables at their means, within a 95% confidence interval, misstatements are associated with between a 25.8% decrease to a 2.4% increase in the likelihood of meeting analysts' target price forecasts at any point during their 12-month horizons.¹² Model 2 assesses the probability that the analyst's price target is met at the end of 12 months. The coefficient for MISSTATE in Model 2 is negative and significant ($\beta = -0.650$, $p = 0.036$). Holding all other variables at their means, misstatements are associated with a 15.3% decrease in the likelihood of meeting analysts' target price forecasts at the end of their 12-month

¹² Probit and ordinary least square regressions provide nearly the same marginal effect confidence interval.

Table 4: Target Price Forecast Revision Magnitude

VARIABLES	(1) Propensity Score Matched Sample TPF_REV ¹³	(2) Pooled Sample TPF_REV
MISSTATE	-0.101*** (0.023)	-0.084*** (0.017)
MB_CHG	0.007 (0.006)	0.001 (0.001)
PE_CHG	0.001* (0.001)	-0.000 (0.000)
CAPEX_CHG	0.020 (0.465)	0.123 (0.106)
SG	-0.016 (0.032)	0.006 (0.008)
SIZE	-0.005 (0.013)	-0.004 (0.003)
IG	0.004 (0.006)	-0.000 (0.001)
VOLUME	0.002 (0.014)	-0.001 (0.003)
VOLUME_CHG	-0.001 (0.030)	-0.004 (0.006)
QTR_RETURNS	-0.029* (0.016)	0.006* (0.003)
Constant	0.020 (0.195)	0.076 (0.050)
Observations	804	56,731
R-squared	0.200	0.060

Includes yearly fixed effects. Standard errors (shown in parentheses) are clustered by firm.

Refer to Appendix A for variable definitions.

*** p<0.01, ** p<0.05, * p<0.1

¹³ Although TPF_REV has more kurtosis than a normal distribution, I examined and confirmed that the residuals of this and each of the following regressions are approximately normally distributed, justifying the use of ordinary least squares regression and logistic regression.

The results of this model are robust to probability weighting the regression by analyst rather than by firm and to including the full set of propensity score matching variables as regression control variables.

Table 5: Target Price Forecast Revision Accuracy

	(1)	(2)	(3)	(4)
	Primary Sample; Logistic Estimation	Primary Sample; Logistic Estimation	Primary Sample; OLS Estimation	Primary Sample; OLS Estimation
VARIABLES	MET_IN ¹⁴	MET_END	SIGNED_ERROR	ABS_ERROR
MISSTATE	-0.457 (0.285)	-0.650* (0.336)	0.103 (0.116)	0.068 (0.084)
MB_CHG	0.019 (0.043)	0.050 (0.050)	-0.024 (0.019)	0.022* (0.013)
PE_CHG	0.005 (0.004)	0.009 (0.006)	-0.006** (0.002)	0.001 (0.002)
CAPEX_CHG	3.053 (4.693)	-5.063 (5.959)	1.036 (1.604)	0.975 (1.113)
SG	-0.403 (0.297)	-0.651 (0.469)	0.115 (0.115)	-0.012 (0.052)
SIZE	-0.039 (0.176)	0.123 (0.162)	-0.085 (0.053)	-0.078* (0.045)
IG	-0.032 (0.037)	-0.075 (0.058)	0.017 (0.017)	-0.002 (0.007)
VOLUME	0.260* (0.153)	0.241 (0.174)	0.018 (0.052)	0.006 (0.044)
VOLUME_CHG	0.427 (0.366)	0.537 (0.436)	-0.269** (0.135)	0.211*** (0.081)
QTR_RETURNS	-0.012 (0.176)	-0.133 (0.187)	0.078 (0.063)	0.015 (0.044)
Constant	-3.810* (1.983)	-5.285** (2.638)	0.364 (0.709)	0.924 (0.577)
Observations	804	804	804	804
Pseudo R ² or R ²	0.075	0.141	0.250	0.240

Includes yearly fixed effects. Standard errors (shown in parentheses) are clustered by firm.

Refer to Appendix A for variable definitions.

*** p<0.01, ** p<0.05, * p<0.1

¹⁴ The results of Models 1 and 2 are robust to evaluation using probit and ordinary least squares regression estimators. When Models 1 and 2 are evaluated using the pooled sample, “MET_IN” takes on a significant negative coefficient ($\beta = -0.371$, $p = 0.015$) while the coefficient for “MET_END” decreases in magnitude and statistical significance ($\beta = -0.288$, $p = 0.127$). The results Models 3 and 4 remain qualitatively unchanged when evaluated using the pooled sample.

horizons. Models 3 and 4 measure the percentage difference between the actual and the target price forecast for the stock at the end of 12 months. Model 3 assesses whether misstatements are predictably associated with either a positive (the analyst was over-optimistic relative to end of period stock price) or negative (the analyst was over-pessimistic relative to end of period stock price) forecast error at the end of the period. Model 4, on the other hand, assesses whether misstatements are associated with a greater magnitude of forecast error, regardless of direction. The coefficient for MISSTATE in Model 3 is insignificant ($p = 0.375$), failing to suggest that analysts' target price forecast error is either predictably positive or negative. The insignificant coefficient for MISSTATE in Model 4 does not indicate that target price forecasts after misstatements are associated with a significantly greater end of period target price forecast error ($p = 0.420$).¹⁵ In all, analysts' target price forecasts may suffer from poorer accuracy after the disclosure of a material misstatement, but my evidence is somewhat inconclusive.

Table 6 provides evidence regarding whether misstatements affect the informativeness of analysts' target price forecasts as measured by two-day cumulative abnormal returns to the announcement of analysts' target price forecasts. Model 1 is tested on the Primary Sample while Model 2 is tested on the Robustness Sample. The negative and significant coefficient for MISSTATE in Model 1 ($\beta = -0.015$, $p = 0.044$) indicates that the average market reaction to analysts' target price forecasts for misstating firms is 1.5% lower than for control firms, all else equal. This finding is consistent with the negative stock returns for misstating firms documented in prior research (Palmrose et al. 2004). The positive and significant coefficient for TPF_REV in Model 1 ($\beta = 0.161$, $p < 0.001$) indicates that short-term market reactions are directly related to the magnitude of analysts' target price forecast revisions, all else equal. The insignificant coefficient on the interaction variable,

¹⁵ Results remain qualitatively similar when I analyze logged absolute percentage error to correct the positive skewness of the absolute value distribution.

Table 6: Target Price Forecast Revision Informativeness

VARIABLES	(1)	(2)
	Propensity Score Matched Sample [0, +1] CAR ¹⁶	Pooled Sample [0, +1] CAR
MISSTATE	-0.015** (0.008)	-0.007 (0.005)
TPF_REV	0.161*** (0.024)	0.133*** (0.005)
TPF_REV x MISSTATE	-0.008 (0.035)	0.049** (0.022)
MB_CHG	0.004*** (0.001)	0.000 (0.000)
PE_CHG	-0.000 (0.000)	0.000 (0.000)
CAPEX_CHG	-0.022 (0.136)	-0.028 (0.027)
SG	-0.003 (0.008)	-0.003* (0.002)
SIZE	-0.005 (0.004)	0.001 (0.001)
IG	-0.001 (0.001)	-0.000 (0.000)
VOLUME	0.008** (0.004)	-0.001 (0.001)
VOLUME_CHG	-0.008 (0.011)	0.002 (0.002)
QTR_RETURNS	-0.007 (0.005)	-0.001* (0.001)
Constant	-0.123** (0.051)	-0.001 (0.011)
Observations	804	56,731
R-squared	0.202	0.149

Includes yearly fixed effects. Standard errors (shown in parentheses) are clustered by firm.

Refer to Appendix A for variable definitions. *** p<0.01, ** p<0.05, * p<0.1

¹⁶ The positive and significant coefficient of “TPF_REV” in Models 1 and 2 is robust to probability weighting the regression by analyst rather than by firm and to including the full set of propensity score matching variables as control variables. In some specifications, the coefficient of “MISSTATE” becomes negative but statistically insignificant at the p = 0.10 level. As in the main table, in some specifications the interaction variable “TPF_REV*MISSTATE” is positive and statistically significant; in other specifications it is statistically insignificant.

TPF_REV x MISSTATE, suggests that analysts' target price forecast revisions are no more or less informative for misstatement firms than for control firms. Thus, analysts' target price forecasts are indeed informative for investors, whether for misstating or control firms. The results for Model 2 are similar, except that, among the pooled sample, there is evidence that analysts' target price forecasts for misstating firms are *more informative* than their target price forecasts for control firms (TPF_REV x MISSTATE: $\beta = 0.049$, $p = 0.024$).

In summary, tests of differences in distribution as well as multiple regressions suggest that analysts significantly decrease their target price forecasts for misstating firms, relative to control firms. I present some evidence that misstatements may decrease the accuracy of analysts' target price forecasts, but find that analysts' target price forecasts remain informative to investors, even after misstatements.

CHAPTER 6

CROSS-SECTIONAL EFFECTS OF TARGET PRICE FORECAST AND MISSTATEMENT CHARACTERISTICS

Having documented the main effects of misstatements upon analysts' target price forecast revision magnitude, accuracy, and informativeness, I now investigate the cross-sectional effects of various target price forecast and misstatement characteristics that are likely to affect analysts' target price forecast revision magnitude, accuracy, and informativeness after misstatements.

Effects of Changes to Historical Earnings and Financial Position, Future Earnings Forecasts, and Discount Rates

In a price-to-earnings model, both decreased earnings and increased discount rates decrease firm value. It is reasonable to assume that analysts will decrease their target price forecasts for firms that disclose negative impact non-reliance misstatements, but it is unclear whether analysts will decrease their target price forecasts primarily due to decreased historical earnings and financial position, decreased earnings forecasts, or increased discount rates. Absent a change in financial position, changes in historical earnings are likely to have their only effect on firm value via future earnings expectations. Indeed, in the price-to-earnings model often used by analysts (Gleason et al. 2013), neither historical earnings nor historical financial position serves as an input into price. Though less frequently used by analysts (Bradshaw 2004; Demirakos et al. 2004; Asquith et al. 2005), other valuation models such as the residual income model (Ohlson 1995) utilize a firm's historical financial position as an input, so I include a measure of change to the firm's historical earnings and financial position in these cross-sectional

tests. I measure the change to a firm's historical earnings and financial position from a misstatement as the cumulative decrease in the book value of equity caused by the misstatement divided by total book value of equity.

Arguing next for future earnings forecasts, an asset's value is equal to the net present value of the cash it provides over its useful life. A firm's value is therefore derived from the dividends it is expected to distribute, whether now or in the future (Modigliani and Miller 1958). A firm can only pay dividends from its retained earnings, so decreases to a firm's future expected earnings after a misstatement would reduce firm value.

Finally, arguing for discount rates, to value an asset requires discounting future cash flows to the net present value, a process that requires the assignment of a discount rate. Prior literature shows that misstatements signal significantly higher firm risk, so analysts' discount rates are likely to increase after a misstatement. Researchers examining firms' valuation have long recognized that valuations involve "often-troublesome terminal value calculations" (Penman and Sougiannis 1998, 345), and other researchers conclude that analysts' estimation of firms' terminal value is underpinned by their assessment of the quality of firms' management (Barker 1999). Misstatements may provide a signal of problems with management competence and integrity (e.g., Desai, Hogan, and Wilkins 2006; Hennes et al. 2008), so decreases in analysts' target price forecasts may be primarily driven by increased discount rates.

To illustrate that misstatements may primarily affect target price forecasts either through decreased future earnings expectations or increased discount rates, imagine two different misstatement scenarios: In the first, an analyst observes a misstatement that materially increases historical and future expenses but does not raise concerns regarding management integrity or competence (for instance, a change in the recognition requirements for executive stock option

expense). In the second, the analyst observes a misstatement that has a negligible effect upon future earnings but raises significant concerns about management's integrity and competence (for instance, premature revenue recognition timing for a two-year, non-renewable customer contract). The target price forecast for the first firm will most likely decrease primarily due to decreased earnings expectations, while the target price forecast for the second firm will most likely decrease primarily due to increases in the discount rate required of the firm to compensate for risk.

Analysts may be relatively more skilled at interpreting the effects of changes to a firm's historical earnings and financial position, predicting a firm's future earnings, or predicting a firm's future discount rate. If so, the degree of change to a firm's historical earnings and financial position (via the misstatement), an analyst's future earnings forecast for a firm, or an analyst's discount rate forecast for a firm may be systematically associated with the accuracy of the analyst's resulting target price forecast. Similarly, investors may believe that some of these inputs to analysts' target price forecasts are more informative than others. Accordingly, I also investigate the differential effects of changes to a firm's historical earnings and financial position, analysts' future earnings forecasts, and analysts' implied discount rates upon analysts' target price forecast revision magnitude, accuracy, and informativeness in my first group of cross-sectional tests.

My findings regarding the effect of accounting misstatement magnitude, analysts' future earnings forecast revisions, and analysts' implied discount rates upon analysts' target price forecast revision magnitude are shown in Table 7 Model 1. All four of the variables of interest are included in the regression model simultaneously to assess the relative importance of each

Table 7: Relative Impact of Historical Earnings and Financial Position, Future Earnings, and Discount Rates

VARIABLES	(1) Primary Sample TPF_REV	(2) Primary Sample MET_IN	(3) Primary Sample MET_END	(4) Primary Sample SIGNED_ERROR	(5) Primary Sample ABS_ERROR	(6) Primary Sample [0, +1] CAR
MISSTATE	-0.100*** (0.024)	-0.579** (0.294)	-0.766** (0.336)	0.167 (0.107)	0.038 (0.088)	-0.032*** (0.010)
MISSTATE_PROP_EQUITY	-0.024 (0.202)	2.077 (2.393)	2.49 (2.002)	-1.224 (0.761)	0.647 (0.506)	0.006 (0.070)
EARN_REV	0.020 (0.024)	0.458 (0.466)	-0.283 (0.306)	-0.059 (0.087)	-0.028 (0.053)	0.009 (0.009)
MISSTATE x EARN_REV	0.009 (0.033)	-0.371 (0.510)	0.681* (0.401)	0.019 (0.095)	0.081 (0.062)	-0.017 (0.013)
MB_CHG	0.007 (0.006)	0.011 (0.045)	0.044 (0.051)	-0.021 (0.019)	0.021 (0.013)	0.005*** (0.002)
PE_CHG	0.001* (0.001)	0.004 (0.004)	0.009 (0.006)	-0.005** (0.002)	0.001 (0.001)	0.000 (0.000)
CAPEX_CHG	0.042 (0.466)	3.168 (4.609)	-5.797 (5.993)	1.117 (1.570)	0.856 (1.097)	-0.005 (0.171)
SG	-0.015 (0.033)	-0.390 (0.314)	-0.585 (0.502)	0.098 (0.120)	0.003 (0.051)	-0.006 (0.011)
SIZE	-0.006 (0.013)	-0.054 (0.174)	0.155 (0.161)	-0.085 (0.053)	-0.075 (0.046)	-0.006 (0.005)
IG	0.004 (0.006)	-0.029 (0.036)	-0.074 (0.056)	0.016 (0.016)	-0.002 (0.007)	-0.001 (0.002)
VOLUME	0.003 (0.014)	0.281* (0.153)	0.243 (0.175)	0.012 (0.051)	0.008 (0.043)	0.009** (0.004)
VOLUME_CHG	-0.003 (0.031)	0.335 (0.355)	0.444 (0.446)	-0.226* (0.130)	0.191** (0.080)	-0.008 (0.013)
QTR_RETURNS	-0.028* (0.017)	0.019 (0.160)	-0.127 (0.185)	0.070 (0.063)	0.016 (0.044)	-0.011* (0.006)
Constant	0.015 (0.196)	-4.061** (2.006)	-5.495** (2.670)	0.476 (0.699)	0.869 (0.555)	-0.120* (0.062)
Observations	804	804	804	804	804	804
Pseudo R ² or R ²	0.204	0.080	0.149	0.261	0.247	0.093

Includes yearly fixed effects. Standard errors (shown in parentheses) are clustered by firm.

Refer to Appendix A for variable definitions. *** p<0.01, ** p<0.05, * p<0.1

factor in the presence of the others. The coefficient of MISSTATE is negative and significant ($\beta = -0.100$, $p < 0.001$), while the coefficients for EARN_REV and MISSTATE x EARN_REV are insignificant, both jointly and separately (EARN_REV + MISSTATE x EARN_REV: $p = 0.2578$, EARN_REV: $p = 0.395$, and MISSTATE x EARN_REV: $p = 0.796$). If analysts decreased their target price forecasts proportionally with their decreased earnings expectations for misstating firms, then the coefficient of EARN_REV would have been statistically significant. If analysts revised their target price forecasts proportionally with their earnings forecasts for control firms but not misstatement firms, then the coefficient of EARN_REV would have been positive and significant while the coefficient of MISSTATE x EARN_REV would have been offsetting: negative and significant. Instead, the results suggest that, in this sample of firms, analysts do not revise their target price forecasts proportionally with their future earnings forecasts. The coefficient of MISSTATE_PROP_EQUITY is also insignificant ($p = 0.771$). This suggests that analysts' target price forecast revisions are unrelated to the magnitude of revisions to historical accounting earnings and financial position. Because there is an incremental negative and significant target price forecast revision for misstatement firms which is not explained by earnings forecast revisions, the coefficient for MISSTATE suggests that analysts primarily decrease their target price forecasts because of increased discount rate requirements for misstating firms.¹⁷

Table 7 Models 2 to 5 presents the effects of changes to a firm's historical earnings and financial position, analysts' future earnings forecasts, and analysts' implied discount rates upon analysts' target price forecast revision accuracy. As with analysts' target price forecast revision

¹⁷ I note that increased discount rates could reflect increased risk assessments or decreased expectations of the persistence or growth of future earnings. I consider decreases in the predictability, persistence, and growth of earnings to represent increased firm risk.

magnitude, the negative and significant coefficients for MISSTATE in the MET_IN ($\beta = -0.579$, $p = 0.049$) and MET_END ($\beta = -0.766$, $p = 0.023$, respectively) models indicate that the effects of misstatements upon target price forecast accuracy are primarily attributable to the presence of a misstatement rather than the extent of change to historical earnings and financial position or analysts' future earnings forecasts. The positive and significant coefficient for MISSTATE x EARN_REV in the MET_END model indicates that, as an analyst's earnings forecast revision decreases more sharply for a misstating firm, so too does the likelihood of that analyst's target price forecast being met at the end of the 12-month forecast horizon.

Table 7 Model 6 documents the informativeness of different inputs into analysts' target price forecasts. As in Table 6, I document a negative average market response to analysts' target price forecasts for misstating firms (MISSTATE: $\beta = -0.032$, $p = 0.001$). None of the other coefficients in this model are statistically significant, so I cannot conclude that one given input into analysts' target price forecasts for misstating firms is relatively more informative than another.

Effects of Misstatements of Revenue or Core Earnings

Prior research has shown that misstatements affect stock prices differently depending on which accounting elements are affected (Palmrose and Scholz 2004; Wilson 2008). Palmrose and Scholz (2004) classify income statement effects of misstatements between "core" and "non-core", where core accounts represent "regular, recurring earnings from primary operations" and non-core represent all other types of earnings, gains, and losses (p. 139). They find that misstatements affecting core accounts (versus non-core accounts) are more likely to be intentional in nature, to precede bankruptcy and stock exchange delisting, to be greater in magnitude, and to trigger more severe stock market responses for six months before and after the

misstatement disclosure. Similarly, I expect that misstatements that affect core earnings will cause analysts to revise their target price forecasts to a greater extent than misstatements that do not affect core earnings.

Ertimur, Livnat, and Martikainen (2003) and Jegadeesh and Livnat (2006) investigate the relative effects of revenue and expense surprises and find that the stock market reacts more strongly to revenue surprises than expense surprises, particularly for growth firms. Jegadeesh and Livnat find that the market is slow to impound revenue surprises into price, providing evidence of stock price drift up to six months after a quarter's revenue surprise for small firms. Wilson (2008) finds that earnings response coefficients are slower to return to normal levels for misstatements affecting revenues than for non-revenue misstatements. She interprets these findings to indicate that market participants require a longer time to reassess the persistence of a firm's earnings when its revenues are affected by a misstatement rather than its expenses. Because uncertainty regarding the persistence of a firm's revenues is likely to significantly compromise analysts' certainty regarding a firm's fundamental value, I expect that misstatements that affect revenue are associated with more significant revisions to analysts' target price forecasts than misstatements that do not affect revenue.

It is possible that misstatements affecting revenue or core earnings are more or less complex than misstatements affecting other accounts. For instance, misstatements of revenue could simply result from errors in the timing (but not total amount) of revenue recognition. Alternatively, revenue might be a relatively complex and long-lasting account to forecast – imagine the difficulty of forecasting a firm's value if the misstatement was caused by material errors in management's judgments related to a contingent revenue contract. Accordingly, misstatements affecting revenue or core earnings may lead to increases or decreases in the

accuracy of analysts' target price forecasts relative to misstatements that do not affect revenue or core earnings. Similarly, investors may or may not rely on analysts to serve as information intermediaries for revenue or core earnings information, so analysts' target price forecast revisions may be more or less informative for misstatements affecting revenue or core earnings. I investigate the effects of misstatements of revenue or core earnings upon analysts' target price forecast revision magnitude, accuracy, and informativeness in my second group of cross-sectional tests.

Table 8 Models 1 and 2 examine whether misstatements affecting revenue or core earnings have a greater impact on analysts' target price forecast revision magnitude than misstatements affecting non-revenue or non-core accounts. The coefficient for CORE is significant and negative ($\beta = -0.148$, $p = 0.012$), suggesting that analysts' revise their target price forecasts more sharply after misstatements affecting core earnings, relative to misstatements not affecting core earnings. Surprisingly, the coefficients for REV is negative but insignificant ($\beta = -0.018$, $p = 0.687$). My evidence suggests that analysts decrease their target price forecasts significantly more when misstatements affect core earnings accounts defined broadly, but not when misstatements only affect revenue.¹⁸ This finding seems to be driven by the nature of revenue versus expense misstatements in my sample. Many of the expense misstatements in my sample arise from failing to record an expense (e.g., stock option compensation expense) while many of the revenue misstatements in my sample are simply issues of timing (i.e., total revenue remains the same; only the timing of recognition is adjusted).

¹⁸ My findings do not appear to result from a lack of power due to insufficient observations. Of the 402 misstatement target price forecasts, 112 affect revenue (290 do not) and 345 observations affect core earnings (57 do not).

Table 8: Impact of Relatively Persistent Accounts

VARIABLES	(1) Primary Sample TPF_REV	(2) Primary Sample TPF_REV	(3) Primary Sample MET_IN	(4) Primary Sample MET_IN	(5) Primary Sample MET_END	(6) Primary Sample MET_END
REV	-0.018 (0.045)		0.067 (0.412)		0.432 (0.610)	
CORE		-0.148** (0.058)		-0.801 (0.522)		0.402 (0.735)
MB_CHG	0.026*** (0.008)	0.021** (0.008)	0.152** (0.077)	0.130* (0.067)	0.171** (0.084)	0.176* (0.090)
PE_CHG	0.001 (0.001)	0.001 (0.001)	-0.000 (0.005)	-0.001 (0.005)	0.004 (0.009)	0.004 (0.009)
CAPEX_CHG	-0.703 (0.821)	-0.673 (0.747)	2.421 (7.292)	3.091 (7.064)	-12.290 (14.255)	-12.538 (14.316)
SG	0.032 (0.042)	0.056 (0.040)	-0.211 (0.414)	-0.096 (0.430)	-0.243 (0.480)	-0.366 (0.541)
SIZE	-0.002 (0.019)	0.004 (0.018)	-0.459* (0.273)	-0.422 (0.260)	-0.156 (0.258)	-0.154 (0.259)
IG	0.003 (0.007)	0.004 (0.006)	0.001 (0.080)	0.003 (0.072)	-0.076 (0.084)	-0.081 (0.087)
VOLUME	-0.001 (0.019)	-0.003 (0.017)	0.510** (0.242)	0.497** (0.226)	0.567** (0.283)	0.564* (0.292)
VOLUME_CHG	0.040 (0.043)	0.023 (0.043)	0.479 (0.452)	0.391 (0.458)	0.436 (0.665)	0.486 (0.698)
QTR_RETURNS	-0.095** (0.037)	-0.080** (0.036)	-0.355 (0.424)	-0.287 (0.408)	-0.533 (0.444)	-0.555 (0.455)
Constant	-0.042 (0.286)	0.077 (0.262)	-6.181* (3.240)	-5.454* (3.086)	-10.272** (4.591)	-10.530** (4.890)
Observations	402	402	402	402	398	398
Pseudo R ² or R ²	0.224	0.250	0.145	0.150	0.205	0.204

Includes yearly fixed effects. Standard errors (shown in parentheses) are clustered by firm.

Refer to Appendix A for variable definitions. *** p<0.01, ** p<0.05, * p<0.1

Table 8: Impact of Relatively Persistent Accounts (continued)

VARIABLES	(7) Primary Sample SIGNED_ERROR	(8) Primary Sample SIGNED_ERROR	(9) Primary Sample ABS_ERROR	(10) Primary Sample ABS_ERROR
REV	-0.136 (0.136)		-0.056 (0.097)	
CORE		0.009 (0.138)		0.162 (0.131)
MB_CHG	-0.079*** (0.024)	-0.078*** (0.025)	0.004 (0.027)	0.010 (0.023)
PE_CHG	-0.004* (0.002)	-0.004* (0.002)	0.002 (0.002)	0.002 (0.002)
CAPEX_CHG	3.150 (2.154)	2.967 (2.059)	1.617 (1.360)	1.485 (1.300)
SG	-0.063 (0.165)	-0.052 (0.181)	-0.001 (0.080)	-0.020 (0.083)
SIZE	-0.003 (0.054)	-0.015 (0.055)	-0.073** (0.035)	-0.086** (0.036)
IG	0.003 (0.025)	0.003 (0.025)	-0.001 (0.008)	-0.002 (0.007)
VOLUME	-0.036 (0.052)	-0.024 (0.053)	0.036 (0.035)	0.046 (0.037)
VOLUME_CHG	-0.177 (0.137)	-0.173 (0.138)	0.146** (0.073)	0.167** (0.069)
QTR_RETURNS	0.230** (0.110)	0.224** (0.108)	0.181** (0.074)	0.161** (0.067)
Constant	0.959 (0.806)	0.755 (0.813)	0.318 (0.532)	0.078 (0.510)
Observations	402	402	402	402
Pseudo R ² or R ²	0.473	0.469	0.390	0.395

Includes yearly fixed effects. Standard errors (shown in parentheses) are clustered by firm.
Refer to Appendix A for variable definitions. *** p<0.01, ** p<0.05, * p<0.1

Table 8: Impact of Relatively Persistent Accounts (continued)

VARIABLES	(11) Primary Sample [0, +1] CAR	(12) Primary Sample [0, +1] CAR
TPF_REV	0.169*** (0.039)	0.181*** (0.027)
REV x TPF_REV	-0.163** (0.068)	
CORE x TPF_REV		-0.035 (0.053)
MB_CHG	0.005** (0.002)	0.004** (0.002)
PE_CHG	-0.000 (0.000)	-0.000 (0.000)
CAPEX_CHG	0.070 (0.216)	0.003 (0.210)
SG	0.012 (0.012)	0.009 (0.011)
SIZE	-0.005 (0.007)	-0.007 (0.007)
IG	-0.002 (0.001)	-0.002* (0.001)
VOLUME	0.009 (0.005)	0.011** (0.005)
VOLUME_CHG	-0.015 (0.018)	-0.014 (0.017)
QTR_RETURNS	-0.020* (0.011)	-0.020** (0.010)
Constant	-0.139* (0.079)	-0.171** (0.076)
Observations	402	402
Pseudo R ² or R ²	0.214	0.236

Includes yearly fixed effects. Standard errors (shown in parentheses) are clustered by firm.
Refer to Appendix A for variable definitions. *** p<0.01, ** p<0.05, * p<0.1

Table 8 Models 3 to 10 examine whether misstatements affecting core earnings or revenue are less accurate than misstatements not affecting these accounts. None of the coefficients for CORE or REV are statistically significant in this set of models, so I cannot conclude that misstatements affecting core earnings or revenue are any less accurate than misstatements not affecting these accounts.

Table 8 Models 11 and 12 examine whether misstatements affecting core earnings or revenue are more or less informative than misstatements not affecting these accounts. To examine this question, Models 11 and 12 present the coefficients of the interaction variables between the variables of interest (CORE and REV) and analysts' target price forecast revision magnitude (TPF_REV). In contrast to Models 3, 5, 7, and 9, the negative and significant coefficient for REV x TPF_REV in Model 11 ($\beta = -0.163$, $p = 0.017$) indicates that the market finds analysts' target price forecasts to be less informative for revenue misstatements relative to other forms of misstatements. This again seems to be driven by the nature of revenue versus expense misstatements in my sample. Many of the expense misstatements in my sample arise from failing to record an expense (e.g., stock option compensation expense) while many of the revenue misstatements in my sample are simply issues of timing (i.e., total revenue remains the same; only the timing of recognition is adjusted). Therefore, it makes sense that the market would find analysts' target price forecasts to be less informative if these forecasts are updated simply to reflect changes in the anticipated timing of revenue recognition.

Effects of Intentional Versus Unintentional Misstatements

Misstatements can be caused either by unintentional errors or intentional misreporting (often referred to as "fraud"). Relative to unintentional misstatements, some prior literature shows that intentional misstatements are associated with more severe consequences for firms.

CEOs and CFOs are more likely to lose their positions after intentional misstatements (Hennes et al. 2008). Intentional misstatements are followed by more severe stock price consequences (Palmrose et al. 2004). On the other hand, intentional misstatements may be associated with *less severe* analyst earnings forecast revisions (Palmrose et al. 2004). Prior research also suggests that investors may not rely on analyst characteristics as much to identify accurate analysts' forecasts after intentional misstatements (Barniv and Cao 2009). Accordingly, I investigate the effects of intentional versus unintentional misstatements upon analysts' target price forecast revision magnitude, accuracy, and informativeness in my third group of cross-sectional tests.

Table 9 Models 1 and 2 provide evidence regarding whether intentional misstatements are associated with more severe decreases in target price forecasts than unintentional misstatements. Whether irregularities are identified through the Hennes et al. (2008) keywords or using the additional Audit Analytics keywords, I find significantly negative coefficients for IRREGULARITY_HLM ($\beta = -0.096$, $p = 0.011$) and IRREGULARITY_AA ($\beta = -0.084$, $p = 0.026$). Thus, analysts appear to revise their target price forecasts more sharply downward after intentional (versus unintentional) misstatements.

Table 9 Models 3 to 10 provide evidence regarding whether intentional misstatements are associated with decreased target price forecast accuracy. I find negative and modestly significant coefficients for IRREGULARITY_HLM ($\beta = -0.753$, $p = 0.051$) and IRREGULARITY_AA ($\beta = -0.691$, $p = 0.067$) in the MET_IN model, but the coefficients for these variables are statistically insignificant in the MET_END, SIGNED_ERROR, and ABS_ERROR models. Thus, I provide limited evidence that analysts' target price forecast accuracy may be impaired after intentional (versus unintentional) misstatements.

Table 9: Impact of Misstatement Intention

VARIABLES	(1) Primary Sample TPF_REV	(2) Primary Sample TPF_REV	(3) Primary Sample MET_IN	(4) Primary Sample MET_IN	(5) Primary Sample MET_END	(6) Primary Sample MET_END
IRREGULARITY_HLM	-0.084** (0.038)		-0.753* (0.386)		-0.245 (0.605)	
IRREGULARITY_AA		-0.096** (0.037)		-0.691* (0.377)		-0.174 (0.607)
MB_CHG	0.023*** (0.008)	0.020*** (0.008)	0.112 (0.070)	0.135* (0.076)	0.143 (0.100)	0.153* (0.093)
PE_CHG	0.001 (0.001)	0.001 (0.001)	-0.000 (0.005)	-0.000 (0.005)	0.005 (0.008)	0.005 (0.009)
CAPEX_CHG	-0.472 (0.762)	-0.531 (0.753)	4.452 (6.781)	4.732 (6.883)	-11.115 (13.674)	-11.299 (14.175)
SG	-0.000 (0.042)	-0.000 (0.040)	-0.517 (0.386)	-0.500 (0.403)	-0.395 (0.543)	-0.380 (0.549)
SIZE	0.001 (0.018)	-0.001 (0.018)	-0.447* (0.243)	-0.434* (0.245)	-0.133 (0.253)	-0.134 (0.255)
IG	0.004 (0.007)	0.004 (0.006)	0.005 (0.077)	0.008 (0.082)	-0.077 (0.084)	-0.078 (0.085)
VOLUME	-0.000 (0.018)	-0.000 (0.017)	0.514** (0.219)	0.508** (0.222)	0.551* (0.284)	0.556** (0.283)
VOLUME_CHG	0.057 (0.041)	0.054 (0.041)	0.616 (0.449)	0.644 (0.458)	0.510 (0.698)	0.500 (0.697)
QTR_RETURNS	-0.092*** (0.033)	-0.088*** (0.033)	-0.308 (0.412)	-0.343 (0.418)	-0.484 (0.457)	-0.497 (0.456)
Constant	-0.037 (0.269)	-0.023 (0.255)	-6.103** (3.038)	-6.105** (3.071)	-9.968** (4.603)	-10.094** (4.545)
Observations	402	402	402	402	398	398
Pseudo R ² or R ²	0.249	0.256	0.160	0.158	0.205	0.204

Includes yearly fixed effects. Standard errors (shown in parentheses) are clustered by firm.

Refer to Appendix A for variable definitions. *** p<0.01, ** p<0.05, * p<0.1

Table 9: Impact of Misstatement Intention (continued)

VARIABLES	(7) Primary Sample SIGNED_ERROR	(8) Primary Sample SIGNED_ERROR	(9) Primary Sample ABS_ERROR	(10) Primary Sample ABS_ERROR
IRREGULARITY_HLM	0.129 (0.109)		-0.028 (0.076)	
IRREGULARITY_AA		0.078 (0.107)		-0.084 (0.072)
MB_CHG	-0.071*** (0.025)	-0.076*** (0.024)	0.003 (0.025)	0.002 (0.026)
PE_CHG	-0.004** (0.002)	-0.004** (0.002)	0.002 (0.002)	0.002 (0.002)
CAPEX_CHG	2.708 (1.992)	2.734 (2.021)	1.601 (1.391)	1.796 (1.395)
SG	-0.005 (0.171)	-0.020 (0.177)	-0.006 (0.082)	-0.030 (0.079)
SIZE	-0.018 (0.056)	-0.019 (0.057)	-0.076** (0.038)	-0.073* (0.037)
IG	0.001 (0.025)	0.001 (0.026)	-0.001 (0.008)	0.000 (0.007)
VOLUME	-0.023 (0.053)	-0.023 (0.054)	0.041 (0.039)	0.040 (0.038)
VOLUME_CHG	-0.193 (0.139)	-0.190 (0.140)	0.152* (0.079)	0.165** (0.079)
QTR_RETURNS	0.215** (0.108)	0.222** (0.109)	0.182** (0.075)	0.183** (0.076)
Constant	0.704 (0.802)	0.735 (0.812)	0.250 (0.573)	0.268 (0.563)
Observations	402	402	402	402
Pseudo R ² or R ²	0.475	0.471	0.389	0.394

Includes yearly fixed effects. Standard errors (shown in parentheses) are clustered by firm.
Refer to Appendix A for variable definitions. *** p<0.01, ** p<0.05, * p<0.1

Table 9: Impact of Misstatement Intention (continued)

VARIABLES	(11) Primary Sample [0, +1] CAR	(12) Primary Sample [0, +1] CAR
TPF_REV	0.104*** (0.040)	0.105*** (0.040)
IRREGULARITY_HLM x TPF_REV	0.076 (0.053)	
IRREGULARITY_AA x TPF_REV		0.072 (0.052)
MB_CHG	0.005** (0.002)	0.005** (0.002)
PE_CHG	-0.000 (0.000)	-0.000 (0.000)
CAPEX_CHG	0.085 (0.220)	0.083 (0.220)
SG	0.009 (0.012)	0.010 (0.012)
SIZE	-0.006 (0.007)	-0.006 (0.007)
IG	-0.002 (0.002)	-0.002 (0.002)
VOLUME	0.009 (0.005)	0.008 (0.005)
VOLUME_CHG	-0.016 (0.018)	-0.016 (0.018)
QTR_RETURNS	-0.019* (0.011)	-0.019* (0.011)
Constant	-0.132* (0.079)	-0.127 (0.079)
Observations	402	402
Pseudo R ² or R ²	0.220	0.219

Includes yearly fixed effects. Standard errors (shown in parentheses) are clustered by firm.
Refer to Appendix A for variable definitions. *** p<0.01, ** p<0.05, * p<0.1

Table 9 Models 11 and 12 provide evidence regarding whether intentional misstatements are associated with decreased target price forecast informativeness. Although target price forecast accuracy may be somewhat impaired after intentional misstatements, the insignificant coefficients for the interaction variables IRREGULARITY_HLM x TPF_REV ($\beta = 0.076$, $p = 0.150$) and IRREGULARITY_AA x TPF_REV ($\beta = 0.072$, $p = 0.165$) in Models 11 and 12 do not provide evidence that analysts' target price forecast revisions after intentional misstatements are any less informative than their target price forecasts after unintentional misstatements.

Effects of More Versus Less Severe Misstatements

Misstatements differ in severity, and prior literature has identified measures which proxy for misstatement severity. Some misstatements are so severe that the CEO loses their position (Hennes et al. 2008). Other severe misstatements result from or trigger investigations by the Securities and Exchange Commission (Karpoff, Lee, and Martin 2008). I expect that analysts seek to understand the severity of accounting misstatements and will reduce their target prices accordingly. However, more severe misstatements are also likely to be more complex to interpret and incorporate into future earnings and target price forecasts. Therefore, analysts' target price forecast accuracy and informativeness may decrease for more severe misstatements. I examine the effect of several misstatement severity proxies on analysts' target price forecast revision magnitude, accuracy, and informativeness in my fourth group of cross-sectional tests.

Table 10 Models 1 and 2 provide evidence regarding whether more severe misstatements (as proxied by CEO turnover and an SEC investigation) are associated with stronger decreases in analysts' target price forecasts. The negative and significant coefficient for CEO_XOVER_365 in Model 1 ($\beta = -0.093$, $p = 0.014$) indicates that analysts revise their target price forecasts more

Table 10: Impact of Misstatement Severity

VARIABLES	(1) Primary Sample TPF_REV	(2) Primary Sample TPF_REV	(3) Primary Sample MET_IN	(4) Primary Sample MET_IN	(5) Primary Sample MET_END	(6) Primary Sample MET_END
CEO_XOVER_365	-0.093** (0.037)		-1.061** (0.436)		-1.197* (0.676)	
SEC_INVESTIG_FLAG		-0.027 (0.055)		0.790 (0.519)		0.995 (0.618)
MB_chg	0.022*** (0.008)	0.026*** (0.008)	0.104 (0.064)	0.134* (0.078)	0.124 (0.081)	0.144 (0.090)
PE_chg	0.001 (0.001)	0.001 (0.001)	0.003 (0.005)	-0.002 (0.006)	0.006 (0.007)	0.001 (0.009)
CAPEX_chg	-0.705 (0.814)	-0.729 (0.814)	3.039 (7.243)	2.579 (7.162)	-10.333 (12.912)	-12.469 (14.089)
SG	0.030 (0.037)	0.034 (0.042)	-0.303 (0.360)	-0.265 (0.414)	-0.341 (0.471)	-0.340 (0.554)
SIZE	0.004 (0.018)	-0.005 (0.019)	-0.366* (0.214)	-0.427* (0.253)	-0.062 (0.244)	-0.090 (0.258)
IG	0.000 (0.007)	0.003 (0.007)	-0.033 (0.077)	-0.001 (0.094)	-0.109 (0.082)	-0.089 (0.092)
VOLUME	-0.006 (0.018)	0.003 (0.019)	0.427** (0.184)	0.443** (0.210)	0.450* (0.246)	0.479* (0.260)
VOLUME_chg	0.055 (0.042)	0.040 (0.043)	0.716 (0.526)	0.500 (0.452)	0.570 (0.677)	0.395 (0.703)
QTR_RETURNS	-0.089*** (0.033)	-0.098*** (0.037)	-0.190 (0.435)	-0.287 (0.410)	-0.464 (0.428)	-0.435 (0.454)
Constant	0.036 (0.263)	-0.101 (0.282)	-5.261** (2.661)	-5.165* (2.806)	-8.599** (3.894)	-9.006** (4.070)
Observations	402	402	402	402	398	398
Pseudo R ² or R ²	0.249	0.225	0.170	0.155	0.229	0.219

Includes yearly fixed effects. Standard errors (shown in parentheses) are clustered by firm.

Refer to Appendix A for variable definitions. *** p<0.01, ** p<0.05, * p<0.1

Table 10: Impact of Misstatement Severity (continued)

VARIABLES	(7) Primary Sample SIGNED_ERROR	(8) Primary Sample SIGNED_ERROR	(9) Primary Sample ABS_ERROR	(10) Primary Sample ABS_ERROR
CEO_XOVER_365	0.256*** (0.097)		0.055 (0.078)	
SEC_INVESTIG_FLAG		-0.076 (0.113)		-0.088 (0.089)
MB_chg	-0.068*** (0.024)	-0.077*** (0.025)	0.007 (0.026)	0.006 (0.027)
PE_chg	-0.005** (0.002)	-0.004* (0.002)	0.002 (0.002)	0.002 (0.002)
CAPEX_chg	2.911 (2.018)	2.964 (2.055)	1.530 (1.367)	1.535 (1.348)
SG	-0.040 (0.153)	-0.050 (0.177)	0.006 (0.078)	0.005 (0.080)
SIZE	-0.035 (0.055)	-0.019 (0.055)	-0.082** (0.039)	-0.082** (0.038)
IG	0.009 (0.025)	0.003 (0.026)	0.000 (0.008)	-0.001 (0.008)
VOLUME	-0.004 (0.052)	-0.017 (0.054)	0.046 (0.039)	0.050 (0.040)
VOLUME_chg	-0.216 (0.138)	-0.175 (0.136)	0.139* (0.075)	0.147** (0.073)
QTR_RETURNS	0.205* (0.106)	0.221** (0.112)	0.175** (0.075)	0.174** (0.077)
Constant	0.476 (0.754)	0.673 (0.812)	0.175 (0.565)	0.132 (0.602)
Observations	402	402	402	402
Pseudo R ² or R ²	0.491	0.470	0.390	0.392

Includes yearly fixed effects. Standard errors (shown in parentheses) are clustered by firm.
Refer to Appendix A for variable definitions. *** p<0.01, ** p<0.05, * p<0.1

Table 10: Impact of Misstatement Severity (continued)

VARIABLES	(11) Primary Sample [0, +1] CAR	(12) Primary Sample [0, +1] CAR
TPF_REV	0.098*** (0.035)	0.161*** (0.031)
CEO_XOVER_365 x TPF_REV	0.144*** (0.053)	
SEC_INVESTIG_FLAG x TPF_REV		-0.110** (0.054)
MB_CHG	0.004** (0.002)	0.005** (0.002)
PE_CHG	-0.000 (0.000)	-0.000 (0.000)
CAPEX_CHG	0.118 (0.209)	0.113 (0.206)
SG	0.010 (0.012)	0.015 (0.012)
SIZE	-0.004 (0.007)	-0.004 (0.007)
IG	-0.003* (0.001)	-0.002 (0.002)
VOLUME	0.006 (0.005)	0.006 (0.005)
VOLUME_CHG	-0.011 (0.018)	-0.013 (0.017)
QTR_RETURNS	-0.015 (0.010)	-0.017 (0.010)
Constant	-0.099 (0.071)	-0.104 (0.077)
Observations	402	402
Pseudo R ² or R ²	0.233	0.222

Includes yearly fixed effects. Standard errors (shown in parentheses) are clustered by firm.
Refer to Appendix A for variable definitions. *** p<0.01, ** p<0.05, * p<0.1

sharply downwards for misstatements which eventually lead to CEO turnover within one year.¹⁹ The insignificant coefficient for SEC_INVESTIG_FLAG in Model 2 fails to indicate that analysts more sharply decrease their target price forecasts for misstatements that are associated with SEC investigations. My findings provide some evidence that analysts revise their target price forecasts downward more sharply after more severe misstatements.

Table 10 Models 3 to 10 provide evidence regarding whether more severe misstatements are associated with decreased target price forecast accuracy. The negative and significant coefficients of CEO_XOVER_365 in Models 3 ($\beta = -1.061$, $p = 0.015$) and 5 ($\beta = -1.197$, $p = 0.077$) indicate that analysts' target price forecasts are less likely to be met within or by the end of the 12-month forecast horizon for misstatements followed by CEO turnover. The positive and significant coefficient for CEO_XOVER_365 in Model 7 ($\beta = 0.256$, $p = 0.009$) indicates that analysts' target price forecasts tend to overshoot actual stock prices at the end of the period by 25.6% when the misstatement is followed by CEO turnover. The coefficients for SEC_INVESTIG_FLAG are statistically insignificant in Models 4, 6, 8, and 10, so the evidence does not indicate that analysts' target price forecasts are any less accurate when misstatements are associated with SEC investigations.

Table 10 Models 11 and 12 provide evidence regarding whether more severe misstatements are associated with decreased target price forecast informativeness. The positive and significant coefficient for the interaction variable CEO_XOVER_365 x TPF_REV in Model 11 ($\beta = 0.144$, $p = 0.007$) indicates that the market finds analysts' target price forecasts to be relatively more informative for misstatements which are followed by CEO turnover. On the other hand, the negative and significant coefficients for the interaction variable

¹⁹ These results do not indicate whether analysts respond to the CEO turnover itself. Rather, I use CEO turnover as an *ex post* indicator that the disclosed misstatement was in fact severe.

SEC_INVEST_FLAG x TPF_REV ($\beta = -0.110$, $p = 0.044$) indicates that the market finds analysts' target price forecasts to be relatively less informative for misstatements that are associated with SEC investigations. This negative interaction coefficient could be due to investors awaiting the outcome of an SEC investigation before revaluing a firm rather than relying on analysts' target price forecast revisions.

In summary, five themes emerge from the cross-sectional tests: First, target price forecast revision magnitude, accuracy, and informativeness appear to be affected by the presence of a misstatement rather than the magnitude of change to historical accounting earnings or financial position or the magnitude of change to analysts' earnings forecasts. Second, analysts decrease their target price forecasts more sharply after misstatements that affect core earnings than misstatements that affect revenue, and analysts' target price forecasts after core earnings misstatements are relatively more informative than target price forecasts after misstatements that only affect revenues. Third, analysts decrease their target price forecasts more sharply after intentional misstatements, but these target price forecasts are less likely to be met during the forecast horizon relative to unintentional misstatements. Fourth, analysts decrease their target price forecasts more sharply, and their target price forecasts are more informative for misstatements that are followed by CEO turnover, but these target price forecasts are less likely to be met during or at the end of the forecast horizon relative to misstatements that are not followed by CEO turnover. Finally, analysts do not appear to revise their target price forecasts more sharply downwards for misstatements associated with an SEC investigation, and the market finds these target price forecast revisions to be less informative than target price forecast revisions for misstatements that are not associated with an SEC investigation.

CHAPTER 7

ROBUSTNESS TESTS

Progressive Misstatement Disclosures: Separate Risk and Earnings Responses

As shown in Figure 2, the disclosure of an accounting misstatement may occur progressively over the course of months or years. Audit Analytics begins tracking accounting misstatements when a firm discloses the potential for a material misstatement in an SEC filing (“Misstatement Disclosure Date” in Figure 2). For some firms, this misstatement disclosure occurs before the firm concludes that prior period financial statements are indeed materially misstated and files Form 8-K Item 4.02 (“8-K Item 4.02 Date” in Figure 2). For instance, many retail firms launched internal accounting reviews after they received SEC staff clarification regarding recording expense reductions arising from leasing rent holidays but only subsequently determined whether previously issued financial statements were materially misstated. For other firms, Form 8-K Item 4.02 is the first SEC filing disclosing a misstatement.

Either concurrent with or after the filing of Form 8-K Item 4.02 (“Non-Reliance on Previously Issued Financial Statements”), firms disclose the estimated financial impact of their misstatements (Badertscher and Burks 2011; Schmidt and Wilkins 2012; Hirschey, Smith, and Wilson 2015) (“Financial Estimate Date” in Figure 2). Appendix C describes the timing of misstatement disclosures in my sample.

Firms that disclose the estimated financial impact of their misstatements at some point after they file Form 8-K Item 4.02 present a unique opportunity. I have identified 210 sets of analysts’ target price forecasts occurring at three different points during the misstatement

timeline: (1) before the misstatement disclosure date, (2) after the misstatement disclosure date but before the financial estimate date, and (3) after the financial estimate date. I investigate these 210 target price forecast revisions to provide further evidence regarding whether analysts respond more to the risk or earnings information provided by a misstatement. These analysts had the opportunity to revise their target price forecasts to reflect the increased risk signaled by the misstatement, but did not yet know the magnitude of the financial impact of the misstatement. After firms estimated the financial impact of their misstatements, these analysts had the opportunity to adjust their earnings expectations to impound this new information.

Table 11 presents the results of analyses in this subsample. The findings suggest that analysts revise their target price forecast amounts more sharply downward surrounding the initial disclosure of the potential misstatement versus the financial estimate date (-9.0% versus 0.0%, $p = 0.054$), but that analysts are somewhat slower to respond after the misstatement disclosure date versus the financial estimate date (48.5 days versus 45 days, $p = 0.082$), perhaps because it takes analysts longer to initially learn about and predict the consequences of a potential misstatement than it takes them later on to interpret the specific financial impact estimate. These results provide some additional evidence that analysts revise their target price forecasts primarily because of the risk information rather than the future earnings information conveyed by a misstatement.

Table 11: Target Price Forecast Revisions for Disclosure Date Versus Financial Estimate Date²⁰

Panel A: Revision Magnitude

Event	Median Target Price Forecast Revision Proportion	# Negative	# Zero	# Positive	Alternative Hypothesis	p-value (Wilcoxon Sign-Rank Test)
Disclosure Date	-0.090	141	2	67	$\overline{DD} < 0$	< 0.001
Financial Estimate Date	0.000	73	83	54	$\overline{FED} < 0$	0.055
					$\overline{DD} \neq \overline{FED}$	0.054

Panel B: Revision Timeliness

Event	Median # Days Until Target Price Forecast Revision	# Negative	# Zero	# Positive	Alternative Hypothesis	p-value (Wilcoxon Sign-Rank Test)
Disclosure Date	48.5	0	2	208	$\overline{DD} > 0$	< 0.001
Financial Estimate Date	45	0	2	208	$\overline{FED} > 0$	< 0.001
					$\overline{DD} \neq \overline{FED}$	0.082

²⁰ Of the 271 target price observations (402 minus 131 observations) where the Disclosure Date, 8-K Item 4.02 Non-Reliance Date, and Financial Estimate Date are not all equal, 210 analysts provide complete target price forecast data at three different points: before the Disclosure Date, between the Disclosure Date and the Financial Estimate Date, and after the Financial Estimate Date. These 210 sets of target price forecasts are used to support this table.

Stock Recommendation Revisions

Analysts can also provide direction to investors through their stock recommendations. Analysts compare their target price forecasts to the current market price and recommend that investors buy (if the target price forecast exceeds the current market price) or sell (if the target price forecast is below the current market price) the stock of a firm. Analysts' stock recommendations are reported on a coarse 5 point scale, such that 1 refers to "Strong Buy" and 5 refers to "Underperform". In untabulated results, I identify a small but statistically significant downgrade in analysts' stock recommendations after misstatements, relative to non-misstating control firms (the economic significance of this result is small – an average decrease of 0.02 points out of 5). This result provides supporting evidence that analysts indeed decrease their estimate of misstating firms' future stock performance.

Sensitivity to Research Design Choices

The primary results in Tables 4 to 10 are based on the propensity score matched Primary and Robustness Samples and are probability weighted by firm (rather than by analyst) such that each firm is equally weighted in the sample rather than heavily analyst followed firms dominating the results. In the footnotes below each table, I describe the robustness of these results to several alternative untabulated specifications: First, I change the probability weighting for each regression such that each analyst (rather than each firm) is equally weighted. Second, I include additional control variables to reduce the likelihood that the coefficients of my independent variables of interest are not biased by an omitted correlated variable. As suggested by Shipman, Swanquist, and Whited (2017), I include all variables from the propensity score matching model in the final regressions. Alternatively, I include control variables for those variables which remain significantly different between misstatement and control firms after

propensity score matching. Each of these sensitivity tests provides qualitatively similar results for the independent variables of interest, except for the results regarding the impact of misstatement irregularity upon target price forecast revision magnitude (for which the expected negative and significant coefficients appear in only 8 of 16 models).

In untabulated robustness tests, I examine results for the subset of target price forecasts issued within 90 days of the misstatement disclosure date. Although my sample size decreases, results remain qualitatively similar and provide consistent inferences with those described elsewhere in this paper.²¹ Among the subset of target price forecasts issued within 30 days of the misstatement disclosure date, I still observe an overall decrease in analysts' target price forecasts, but the results of several of the more detailed tests change.²² I also confirm the robustness of my results to excluding target price forecasts issued during the financial crisis period (2008 and 2009). Inferences remain largely unchanged.²³

²¹ For the 609 target price forecasts issued within 90 days of the misstatement disclosure, the following results differ materially from those described elsewhere in the paper: In the cross-sectional tests, HIGH_FIN_IMPACT takes on a positive and significant coefficient in the TPF_REV model, negative and significant coefficients in the MET_END and MET_IN models, and insignificantly positive coefficients in the SIGNED_ERROR and ABS_ERROR models.

²² For the 317 target price forecasts issued within 30 days of the misstatement disclosure, the following results differ materially from those described elsewhere in the paper: In Table 5, MISSTATE has negative and significant coefficients in the MET_END and MET_IN models and positive and significant coefficients in the SIGNED_ERROR and ABS_ERROR models. In cross-sectional tests, the MISSTATE x EARN_REV interaction is no longer negative and significant in the TPF_REV model. The coefficients for IRREGULARITY_HLM and IRREGULARITY_AA in the cross-sectional tests are negative and significant in the TPF_REV model in some specifications, but insignificant in others. CEO_XOVER_365 loses its negative and significant coefficient in the TPF_REV model, and SCA_LAWSUIT_FLAG and HIGH_QUARTERS_MISSTATED, and HIGH_FIN_IMPACT each take on a positive and significant coefficient in the TPF_REV model.

²³ For target price forecasts not issued in the financial crisis period (2008 and 2009), the following results differ materially from those described elsewhere in the paper: The MISSTATE x EARN_REV interaction in the TPF_REV model in the cross-sectional tests is no longer negative and significant. HIGH_FIN_IMPACT takes on a positive and significant coefficient in the TPF_REV model. MISSTATE gains negative and significant coefficients in the MET_END and MET_IN models in Table 5, a positive and significant coefficient in the SIGNED_ERROR model, and a positive but insignificant coefficient in the ABS_ERROR model. In Table 6, MISSTATE has negative but insignificant coefficients.

CHAPTER 8

CONCLUSION

My investigation of the magnitude, accuracy, and informativeness of analysts' target price forecasts after misstatements complements prior literature on analysts' responses to misstatement disclosures, fills a gap in the literature regarding analysts' target price forecast revisions after misstatements, and benefits investors by providing evidence regarding the accuracy and informativeness of analysts' target price forecasts after misstatements. The unique context of misstatements provides me with an ideal opportunity to investigate how changes to historical accounting earnings and analysts' future earnings forecasts affect analysts' target price forecasts.

My research is subject to several limitations. First, my analysis of target price forecasts is limited to a relatively small sample of misstatement and matched control firms due both to the infrequency of misstatements and to data availability limitations (e.g., requiring both pre-and post-misstatement target price forecasts accompanied by earnings forecasts for the same future period). I assume that analysts use price-to-earnings valuation models, but cannot confirm their model use. My findings that analysts appear to increase their risk assessments for misstating firms may be subject to error if analysts use alternative valuation models or multi-period assessments.

Despite these limitations, my results indicate that analysts' target price forecasts provide useful information to investors after accounting misstatements. Future research on this subject

could attempt to develop profitable trading strategies using a combination of factors from analysts' forecasts, firm fundamentals, and misstatement characteristics. Future research could also examine the liquidity and trading volume effects of analysts' reports after accounting misstatements. Finally, future research could examine analysts' full text reports to gain a more nuanced understanding of how analysts' target price forecasts and valuation multiples are adjusted and discussed in response to misstatements.

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APPENDIX A

Variable Definitions

Dependent Variables

ABS_ERROR is defined as $\left| \frac{TPF_q - MC_{q+4}}{MC_q} \right|$. TPF_q refers to analysts' post-misstatement target price forecast multiplied by the number of common shares outstanding at time q , MC_q refers to the market capitalization at time q , and MC_{q+4} refers to the market capitalization one year after the issuance of the target price forecast at time q .

EARN_REV is defined as the percentage change in analysts' earnings forecasts from before to after the material misstatement disclosure.

MET_END takes a value of one if the market capitalization of the firm meets or exceeds the analysts' target price forecast multiplied by the outstanding number of shares per IBES exactly 12 months after the target price forecast is issued, zero otherwise.

MET_IN takes a value of one if the market capitalization of the firm meets or exceeds the analysts' target price forecast multiplied by the outstanding number of shares per IBES at any time during the 12 months after the target price forecast is issued, zero otherwise.

SIGNED_ERROR is defined consistently as $\frac{TPF_q - MC_{q+4}}{MC_q}$. TPF_q refers to analysts' post-misstatement target price forecast multiplied by the number of common shares outstanding at time q , MC_q refers to the market capitalization at time q , and MC_{q+4} refers to the market capitalization one year after the issuance of the target price forecast at time q .

TPF_REV is defined as the percentage change in analysts' target price forecasts from before to after the material misstatement disclosure.

[0, +1] CAR is defined as the two-trading day [0, +1] cumulative abnormal return for a firm surrounding the announcement of an analyst's target price forecast.

Independent Variables of Interest

CEO_XOVER_365 takes the value one if the misstating firm replaced its CEO within one year after the misstatement disclosure and zero otherwise.

CEO_XOVER_365 x TPF_REV takes the value TPF_REV if the misstating firm replaced its CEO within one year after the misstatement disclosure and zero otherwise.

CORE takes the value one if the misstatement affects core earnings and zero if the misstatement only affects non-core earnings.

CORE x TPF_REV takes the value TPF_REV if the misstatement affects core earnings and zero if the misstatement only affects non-core earnings.

IRREGULARITY_AA takes the value one if the misstating firm's 8-K Item 4.02 disclosure contains variants of the word "irregularity", "fraud", "investigation" "criminal", or "intentional" and zero otherwise.

IRREGULARITY_AA x TPF_REV takes the value TPF_REV if the misstating firm's 8-K Item 4.02 disclosure contains variants of the word "irregularity", "fraud", "investigation" "criminal", or "intentional" and zero otherwise.

IRREGULARITY_HLM takes the value one if the misstating firm's 8-K Item 4.02 disclosure contains variants of the word "irregularity", "fraud", or "investigation" and zero otherwise.

IRREGULARITY_HLM x TPF_REV takes the value TPF_REV if the misstating firm's 8-K Item 4.02 disclosure contains variants of the word "irregularity", "fraud", or "investigation" and zero otherwise.

MISSTATE takes the value one for firms which file an 8-K Item 4.02 negative-impact misstatement and zero otherwise (i.e., control firms).

MISSTATE x EARN_REV is an interaction variable taking on the value EARN_REV if MISSTATE is equal to one and zero otherwise.

MISSTATE_PROP_EQUITY is defined as the cumulative misstatement impact on stockholder's equity divided by the book value of common stockholder's equity.

REV takes the value one if the misstatement affects revenues and zero if the misstatement does not affect revenues.

REV x TPF_REV takes the value TPF_REV if the misstatement affects revenues and zero if the misstatement does not affect revenues.

SEC_INVESTIG_FLAG takes the value one if the Securities and Exchange Commission investigated the misstatement and zero otherwise.

SEC_INVESTIG_FLAG x TPF_REV takes the value TPF_REV if the Securities and Exchange Commission investigated the misstatement and zero otherwise.

TPF_REV x MISSTATE is an interaction variable which takes the value of "TPF_REV" if the firm misstated its earnings and 0 otherwise.

Control Variables

Note: All Compustat variables presented are quarterly results for misstating firms. These results are from the last quarterly financial statements reported before the disclosure of the misstatement.

CAPEX is defined as capital expenditures divided by total assets.

CAPEX_CHG is defined as $CAPEX_q - CAPEX_{q-1}$.

CFF is defined as net financing cash flows divided by average total assets, following Dechow et al. (2011).

CH_CM is defined as the percentage change in cash margin, where cash margin is measured as: $1 - [(Cost\ of\ Goods\ Sold - \Delta Inventory + \Delta Accounts\ Payable) / (Sales - \Delta Accounts\ Receivable)]$, following Dechow et al. (2011).

CH_CS is defined as the percentage change in cash sales, where cash sales are defined as: $Sales - \Delta accounts\ Receivable$, following Dechow et al. (2011).

CH_EMP is defined as the percentage change in the number of employees less the percentage change in assets, following Dechow et al. (2011).

CH_INV is defined as $\Delta Inventory / Average\ total\ assets$, following Dechow et al. (2011).

CH_REC is defined as $\Delta Accounts\ Receivable / Average\ total\ assets$, following Dechow et al. (2011).

CH_ROA is defined as $\Delta(Earnings / Average\ Total\ Assets)$, following Dechow et al. (2011).

DA is defined as the residual from a modified Jones discretionary accrual model, estimated by industry/year following Dechow et al. (2011).

EXFIN is an indicator variable taking the value of 1 if cash flow from operations less the average capital expenditures for the past three years, deflated by current assets is less than -0.5, following Dechow et al. (2011).

IG is defined as the year over year percentage growth in net income (excluding discontinued operations and extraordinary items).

ISSUE is an indicator variable taking the value of 1 if the firm issued debt or equity securities during the current year, following Dechow et al. (2011).

LEASEDUM is an indicator variable taking the value of 1 if future operating lease obligations are greater than zero, following Dechow et al. (2011).

LEVERAGE is defined as long term debt divided by total assets, following Dechow et al. (2011).

LIQUIDITY is defined as cash and cash equivalents plus trade receivables, divided by average total assets, following Amel-Zadeh and Zhang (2015).

MB is defined as the market capitalization of common equity divided by the book value of common equity, following Dechow et al. (2011).

MB_CHG is defined as $MB_q - MB_{q-1}$.

PE is defined as the market value of common equity divided by earnings before extraordinary items, adapted from Amel-Zadeh and Zhang (2015).

QTR_RETURNS is defined as $(SIZE_q + DIVIDENDS_q - SIZE_{q-1}) / SIZE_{q-1}$.

ROA is defined as income before extraordinary items divided by average total assets, following Amel-Zadeh and Zhang (2015).

SG is defined as the year over year percentage growth in sales.

SIZE is defined as the natural log of firm's market capitalization as of the analysts' estimate.

SOFT_ASSETS is defined as $(Assets - PP\&E - Cash\ and\ Cash\ Equivalent) / Total\ Assets$, following Dechow et al. (2011).

TAX is defined as $Deferred\ Tax\ Expense / Total\ Assets\ for\ Prior\ Year$, following Dechow et al. (2011).

VOLUME is defined as the natural log of common stock trading volume in the three months preceding the earliest disclosure of the misstatement.

VOLUME_CHG is defined as $VOLUME_q - VOLUME_{q-1}$.

WC_ACC is defined as $[(\Delta\text{Current Assets} - \Delta\text{Cash and Short-term Investments}) - (\Delta\text{Current Liabilities} - \Delta\text{Debt in Current Liabilities} - \Delta\text{Taxes Payable})] / \text{Average total assets}$, following Dechow et al. (2011).

APPENDIX B

Example Misstatement: Semtech Corporation

Semtech Corporation is a supplier of semiconductors to the communications and electronics industry. As a publicly traded firm on the NASDAQ exchange, Semtech is obliged to prepare and report quarterly and annual financial statements to the SEC using United States Generally Accepted Accounting Principles (“US GAAP”). As of 2006, US GAAP required that stock option compensation for executives be recognized as an expense if the current stock price exceeded the option strike price at the option grant date. Stock option backdating occurs when the option strike price is based on the stock price at a historical point in time rather than the present time. Stock option backdating is not, in itself, improper, provided that appropriate compensation expense is recorded when backdated options are granted.

On March 7, 2006, Semtech’s stock traded around \$18.37. Analyst ID 572284 issued a 12-month forward target price forecast for \$24 per share for Semtech. On April 3, 2006, while Semtech’s stock traded around \$18.01, Analyst ID 19069 issued a 12-month forward target price forecast for \$21 per share for Semtech.

On May 16, 2006, the Center for Financial Research and Analysis issued a public research report questioning the stock option expense recognition practices for 30 different companies, including Semtech. Two days later, on May 18, 2006, the SEC requested information from Semtech regarding four different option grants made from 1997 to 2002. Four days after that, on May 22, 2006, Semtech published a press release titled “Semtech Receives

Informal Inquiry from SEC” in which it announced that was voluntarily providing information regarding stock options granted since January 1, 1997 to the SEC. Because it was the earliest date a potential misstatement was disclosed in an SEC filing, May 22, 2006 is captured within Audit Analytics as the “Disclosure Date” for Semtech’s misstatement / restatement (see Figure 2).

Surrounding this disclosure, Semtech’s stock price dropped precipitously. By the time Analyst ID 577284 revised their 12-month forward target price forecast to \$23.00 on May 30, 2006, Semtech’s stock price had fallen to \$15.70. The price declined even further to \$12.90 before Analyst ID 19069 revised their target price forecast to \$15 on September 26, 2006. From before to after the Misstatement Disclosure Date, Analysts 577284 and 19069 decreased their target price forecasts 4.7% and 28.6%, respectively. These two analysts’ target price decreases form part of the variable “TPF_REV”.

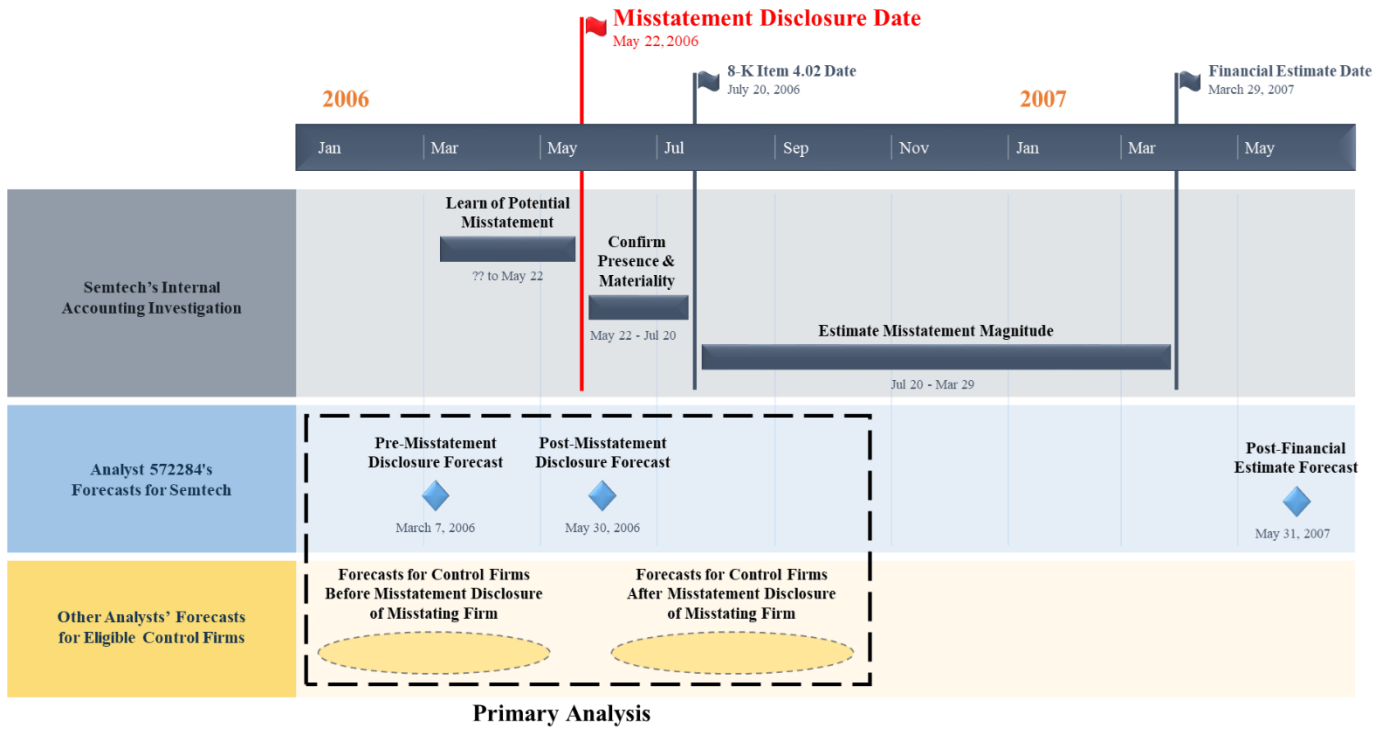
On June 9, 2006, Semtech filed Form NT 10-Q with the SEC (“Notification of inability to timely file Form 10-Q or 10-QSB”). This would be the first of three quarterly reports that Semtech delayed while investigating the accounting for their stock options. On this same day, Semtech’s audit committee launched an internal investigation into the accounting for stock option compensation utilizing independent counsel and forensic accountants. On July 12, 2006, Semtech appointed a Special Committee of the Board of Directors to continue the investigation – entirely composed of individuals who had never been employed by Semtech. On July 19, 2006, approximately two months after the initial report from the Center for Financial Research and Analysis was released, Semtech’s management, Board of Directors, Audit Committee, Special Committee, and its external auditor (Ernst and Young) determined that Semtech’s financial statements and audit reports for the years 2002 to 2006 should not be relied upon. On July 20,

2006, Semtech filed form 8-K with Item 4.02 (“Non-Reliance on Previously Issued Financial Statements or a Related Audit Report or Completed Interim Review”) to notify investors that they should no longer rely on the contents of these previous financial statements and audit reports. This date is tracked in Audit analytics as the 8-K Item 4.02 Date (see Figure 2).

Although Semtech determined that its previously issued financial statements were materially misstated on July 19, 2006, it had not yet provided an estimate of the total financial impact of its misstatement to investors because its internal investigation remained ongoing. Because of its ongoing investigation, on September 8, 2006, and December 19, 2006, Semtech again delayed filing quarterly reports with the SEC.

Finally, after 10 months, on March 29, 2007, Semtech restated its historical annual and quarterly filings to correct its historical accounting for stock option compensation. Relative to its total market capitalization of approximately \$900 million, Semtech reduced its retained earnings by \$91 million to reflect corrected stock-based compensation expense for 1996 to 2003. Figure 2 presents Semtech’s misstatement timeline visually and illustrates the target price forecast data used for misstating and control firms in this study.

Figure 2: Data Design and Example Timeline – Semtech Corporation and Analyst #572284



Semtech Receives Informal Inquiry from SEC

CAMARILLO, Calif.--(BUSINESS WIRE)--May 22, 2006--Semtech Corporation (NASDAQ:SMTC), a leading supplier of analog and mixed-signal semiconductors for communications, portable devices, computers, and industrial equipment, announced that it has received a letter from the Securities and Exchange Commission dated May 18, 2006 requesting that it voluntarily provide information regarding stock options granted since January 1, 1997. The Company intends to fully cooperate with the SEC's informal inquiry.

Semtech was one of over 30 public companies discussed in a May 16, 2006 third party report concerning the timing of stock option grants from 1997 through 2002. With respect to Semtech, the report referenced two option grants made by the Company in 1997, one in 1999 and one in 2002.

About Semtech

Semtech Corporation is a leading supplier of analog and mixed-signal semiconductors used in a wide range of computer, industrial and communication applications.

Forward-Looking and Cautionary Statements

This release contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities

Exchange Act of 1934, as amended. Forward-looking statements are statements other than historical information or statements of current condition and relate to matters such as future financial performance, future operational performance, the anticipated impact of specific items on future earnings, and our plans, objectives and expectations. Some forward-looking statements may be identified by use of terms such as "expects," "anticipates," "intends," "estimates," "believes", "projects", "should", "will", "plans" and similar words.

Forward-looking statements involve known and unknown risks and uncertainties that could cause actual results to differ materially from those projected. Forward-looking statements should be considered in conjunction with the cautionary statements contained in the "Risk Factors" section and elsewhere in the Company's Annual Report on Form 10-K for the fiscal year ended January 29, 2006, in the Company's other filings with the SEC, and in material incorporated therein by reference. Forward-looking statements should not be regarded as representations by the Company that its objectives or plans will be achieved or that any of its operating expectations or financial forecasts will be realized. The Company assumes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

CONTACT: Semtech Corporation

John Baumann, 805-480-2010

Semtech Corporation Form 8-K on July 20, 2006

Item 4.02 Non-Reliance on Previously Issued Financial Statements or a Related
Audit Report or Completed Interim Review.

Item 4.02(a)

As previously reported, the Company has been engaged in an internal review of its stock option practices in light of an informal SEC inquiry. On June 9, 2006, the Audit Committee, with the assistance of independent counsel and forensic accountants, commenced an internal investigation of the Company's stock option practices and associated accounting. On July 12, 2006, the Board of Directors appointed a Special Committee to continue the Audit Committee investigation. The Special Committee is comprised of members who had not served the Company or the Board in any capacity prior to December 2002. The Special Committee has not completed its work or reached final conclusions and is continuing its investigation.

The initial phase of the investigation has focused on the processes used to establish option exercise prices and obtain approvals of stock option grants, including procedures relating to initial stock option grants to newly-hired employees, and the related measurement dates used for financial reporting purposes. Although the investigation is ongoing, the Committee has concluded that, pursuant to the requirements of Accounting Principles Board Opinion No. 25, Accounting for Stock Issued to Employees (APB 25), the accounting measurement dates for certain stock options granted primarily during fiscal years 1998 through 2003 (which roughly correspond to calendar years 1997 through 2002) differ from the measurement dates previously

used for such awards. As a result, new accounting measurement dates will apply to the affected option grants.

Consequently, the Company expects to record additional non-cash compensation expense and expects the amount of such additional expense to be material. The tax consequences that may result from these matters have not yet been determined. As a result of these adjustments, the Company expects to restate its financial statements for fiscal years 2002 through 2006. The restatement will also affect financial statements for earlier fiscal years and adjustments for those earlier years will be reflected as part of the opening balances in the financial statements for the restatement period.

The Company believes that the additional non-cash compensation expense under APB 25 will not affect its current cash position or previously reported revenues. Although future operating results are not expected to be significantly impacted by the adjustments related to past stock option practices, expenses arising from management's review, the Special Committee's investigation, related litigation and other associated activities will be recorded in the periods incurred and are expected to be significant.

Management, the Special Committee and the Audit Committee have discussed the above matters with Ernst & Young LLP, the Company's independent registered public accounting firm.

On July 19, 2006 the Board of Directors, in consultation with management, the Audit Committee, and the Special Committee and with the concurrence of Ernst & Young LLP,

determined that financial statements and the related reports of its independent public accountants, earnings press releases, and similar communications previously issued by the Company should not be relied upon due to the pending restatement of its historical financial statements.

Because the review is still ongoing, the aggregate amount of additional non-cash stock-based compensation expense has not been determined, nor has the amount of such expense to be recorded in any specific period or in any future period been determined.

Management is evaluating the impact of this matter on its internal controls over financial reporting and its reports thereon for fiscal years 2005 and 2006. The Company's disclosure controls and procedures are also being reevaluated.

The Special Committee is working to complete its investigation in a timely manner and the Company intends to file its restated financial statements and its quarterly report for the period ended April 30, 2006 as soon as practicable after the Special Committee's investigation is concluded. As previously announced, the Company received a Staff Determination letter from Nasdaq on June 15, 2006 indicating that the Company's securities are subject to delisting because the Company has not yet filed its Form 10-Q for the fiscal quarter ended April 30, 2006 and is therefore not in compliance with the continued listing standard in Nasdaq Marketplace Rule 4310(c)(14). The Company has requested a hearing before a Nasdaq Listing Qualifications Panel ("Panel") to review the Staff Determination. At the hearing, which will occur within the next two weeks, the Company will ask the Panel for additional time to remedy the late filing and to restate

its financial statements. There can be no assurance that the Panel will grant the additional time or that the Company will maintain its Nasdaq listing.

The press release issued by the Company on July 20, 2006 in connection with this matter is attached hereto as Exhibit 99.1

Item 8.01. Other Events

The Company has been served with a third stockholder derivative lawsuit related to stock option practices, which was filed in the United States District Court for the Central District of California. This case, which names the Company as a nominal defendant, seeks to bring derivative claims on behalf of the Company against certain of its present and former directors and executive officers. The Company is evaluating the lawsuit and will respond to it in due course.

Item 9.01. Financial Statements and Exhibits

(c) Exhibits

Exhibit 99.1 Press Release of the Company dated July 20, 2006

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: July 20, 2006

SEMTECH CORPORATION

By: /s/ David G. Franz, Jr.

David G. Franz, Jr.

Chief Financial Officer

Semtech Expects Restatement
Related to Stock-Based Compensation

CAMARILLO, Calif.--(BUSINESS WIRE)--July 20, 2006--Semtech Corporation (Nasdaq:SMTC) announced today that it will restate its historical financial statements.

As previously reported, the Company has been engaged in an internal review of its stock option practices in light of an informal SEC inquiry. On June 9, 2006, the Audit Committee, with the assistance of independent counsel and forensic accountants, commenced an internal investigation of the Company's stock option practices and associated accounting. On July 12, 2006, the Board of Directors appointed a Special Committee to continue the Audit Committee investigation. The Special Committee is comprised of members who had not served the Company or the Board in any capacity prior to December 2002. The Special Committee has not completed its work or reached final conclusions and is continuing its investigation.

The initial phase of the investigation has focused on the processes used to establish option exercise prices and obtain approvals of stock option grants, including procedures relating to initial stock option grants to newly-hired employees, and the related measurement dates used for financial reporting purposes. Although the investigation is ongoing, the Committee has concluded that, pursuant to the requirements of Accounting Principles Board Opinion No. 25, Accounting for Stock Issued to Employees (APB 25), the accounting measurement dates for certain stock options granted primarily during fiscal years 1998 through 2003 (which roughly correspond to calendar years 1997 through 2002) differ from the measurement dates previously

used for such awards. As a result, new accounting measurement dates will apply to the affected option grants.

Consequently, the Company expects to record additional non-cash compensation expense and expects the amount of such additional expense to be material. The tax consequences that may result from these matters have not yet been determined. As a result of these adjustments, the Company expects to restate its financial statements for fiscal years 2002 through 2006. The restatement will also affect financial statements for earlier fiscal years and adjustments for those earlier years will be reflected as part of the opening balances in the financial statements for the restatement period.

The Company believes that the additional non-cash compensation expense under APB 25 will not affect its current cash position or previously reported revenues. Although future operating results are not expected to be significantly impacted by the adjustments related to past stock option practices, expenses arising from management's review, the Special Committee's investigation, related litigation and other associated activities will be recorded in the periods incurred and are expected to be significant.

Management, the Special Committee and the Audit Committee have discussed the above matters with Ernst & Young LLP, the Company's independent registered public accounting firm.

On July 19, 2006 the Board of Directors, in consultation with management, the Audit Committee, and the Special Committee and with the concurrence of Ernst & Young LLP, determined that financial statements and the related reports of its independent public accountants, earnings press releases, and similar communications previously issued by the Company should not be relied upon due to the pending restatement of its historical financial statements.

Because the review is still ongoing, the aggregate amount of additional non-cash stock-based compensation expense has not been determined, nor has the amount of such expense to be recorded in any specific period or in any future period been determined.

Management is evaluating the impact of this matter on its internal controls over financial reporting and its reports thereon for fiscal years 2005 and 2006. The Company's disclosure controls and procedures are also being reevaluated.

The Special Committee is working to complete its investigation in a timely manner and the Company intends to file its restated financial statements and its quarterly report for the period ended April 30, 2006 as soon as practicable after the Special Committee's investigation is concluded. As previously announced, the Company received a Staff Determination letter from Nasdaq on June 15, 2006 indicating that the Company's securities are subject to delisting because the Company has not yet filed its Form 10-Q for the fiscal quarter ended April 30, 2006 and is therefore not in compliance with the continued listing standard in Nasdaq Marketplace Rule 4310(c)(14). The Company has requested a hearing before a Nasdaq Listing Qualifications Panel ("Panel") to review the Staff Determination. At the hearing, which will occur within the next two weeks, the Company will ask the Panel for additional time to remedy the late filing and to restate its financial statements. There can be no assurance that the Panel will grant the additional time or that the Company will maintain its Nasdaq listing.

The Company also reports that it has been served with a third stockholder derivative lawsuit related to stock option practices, which was filed in the United States District Court for the Central District of California. This case, which names the Company as a nominal defendant, seeks to bring derivative claims on behalf of the Company against certain of its present and

former directors and executive officers. The Company is evaluating the lawsuit and will respond to it in due course.

About Semtech

Semtech Corporation is a leading supplier of analog and mixed-signal semiconductors used in a wide range of computer, industrial and communication applications.

Forward-Looking and Cautionary Statements

This release contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements are statements other than historical information or statements of current condition and relate to matters such as our plans, objectives and expectations. Some forward-looking statements may be identified by use of terms such as "expects," "anticipates," "intends," "estimates," "believes," "projects," "should," "will," "plans" and similar words. Forward-looking statements should not be regarded as representations by the Company that its objectives or plans will be achieved. The Company assumes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Forward-looking statements should be considered in conjunction with the cautionary statements contained in the "Risk Factors" section and elsewhere in the Company's Annual Report on Form 10-K for the fiscal year ended January 29, 2006, in the Company's other filings

with the SEC, and in material incorporated therein by reference. In addition, there are a number of risks associated with the matters discussed in this press release. We can not predict when either the restatement or the internal investigation will be completed. We can not predict the outcome of the SEC inquiry, the internal investigation, the pending Nasdaq hearing regarding delisting of our stock, or any other lawsuit or other proceeding related to the Company's stock option practices. We could also be subjected to other lawsuits and could become the subject of other regulatory investigations in addition to those now underway. Dealing with the matters described in this press release could divert management's attention from our operations and expenses arising from management's review, the Special Committee's investigation, the restatement, related litigation and other associated activities are expected to be significant. Our current and former officers and directors could seek indemnification or advancement or reimbursement of expenses from us, including attorneys' fees, with respect to current or future proceedings related to our stock option practices. These events could adversely affect our business and the price of our common stock.

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APPENDIX C

Average Misstatement Timeline

Audit Analytics reports two misstatement dates: a “Disclosure Date” and an “8-K Item 4.02 Date”. The “Disclosure Date” is the date of the first SEC filing that discloses the possibility of a misstatement (for instance, a board of directors announces an internal review of the firm’s accounting). The “8-K Item 4.02 Date” is the filing date of the firm’s 8-K Item 4.02 (“Non-Reliance on Previously Issued Financial Statements”). I hand-collect the date of the first SEC filing which estimates the financial impact of each misstatement in my sample and term this field the “Financial Estimate Date”.

For some misstatements, the “Disclosure Date”, “8-K Item 4.02 Date”, and “Financial Estimate Date” are all the same. For the 402 target price forecasts in my “Earnings to Price Sample”, the following table indicates whether the misstatement disclosure, 8-K Item 4.02, and financial estimate occurred on the same date:

Table 12: Frequency of Occurrence by Misstatement Timeline

Case	Number of Observations
Disclosure \neq 8-K Item 4.02 \neq Financial Estimate	134
Disclosure = 8-K Item 4.02 = Financial Estimate	131
Disclosure \neq (8-K Item 4.02 = Financial Estimate)	93
(Disclosure = 8-K Item 4.02) \neq Financial Estimate	44
Total	402

When the “Disclosure Date” does not equal the “8-K Item 4.02” or when the “Disclosure Date does not equal the “Financial Estimate Date”, the following table represents the mean and median number of days between those events:

Table 13: Time Between Significant Misstatement Events

Case	Mean Days	Median Days
Disclosure to 8-K Item 4.02	77	47
Disclosure to Financial Estimate	134	99

APPENDIX D

Misstatement Reasons Identified as Affecting Revenue or Core Earnings Based on Audit Analytics Reasons / Issues Classification

A misstatement is identified as affecting revenue if its “Accounting Rule (GAAP/FASB) Application Failures”, “Financial Fraud, Irregularities and Misrepresentations”, or “Errors - Accounting and Clerical Applications” fields contain the item “Revenue recognition issues”.

A misstatement is identified as affecting core earnings if its “Accounting Rule (GAAP/FASB) Application Failures”, “Financial Fraud, Irregularities and Misrepresentations”, or “Errors - Accounting and Clerical Applications” fields contain any of the following items: “Revenue recognition issues”, “Accounts/loans receivable, investments & cash issues”, “Capitalization of expenditures issues”, “Deferred, stock-based and/or executive comp issues”, “Deferred, stock-based options backdating only (subcategory)”, “Deferred, stock-based SFAS 123 only (subcategory)”, “Depreciation, depletion or amortization errors”, “Expense (payroll, SGA, other) recording issues”, “Inventory, vendor and/or cost of sales issues”, “Lease, SFAS 5, legal, contingency and commitment issues”, “Lease, leasehold and FAS 13 (98) only (subcategory)”, or “Liabilities, payables, reserves and accrual estimate failures”.