DO MANAGERS ALTER THE TONE OF THEIR EARNINGS ANNOUNCEMENTS AROUND STOCK OPTION GRANTS AND EXERCISES?

by

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In this dissertation I investigate whether managers alter the linguistic tone of their earnings announcements to increase the value of their stock options. Empirical research finds evidence that managers use optimistic tone to signal future firm performance. However, prior literature also finds a positive relation between optimistic tone in earnings announcements and short-window abnormal returns. The market reaction to optimistic tone suggests that managers can profit from using pessimistic tone to lower the firm's stock price prior to option grants and optimistic tone to increase the stock price prior to option exercises.

I hypothesize that managers adjust the tone of their earnings announcements to increase the value of their stock options. In addition, I hypothesize that managers will alter the tone to increase option payouts when the costs of doing so (proxied by litigation

risk) are low and when the financial reporting incentives to do so (proxied by earnings management) are high. I test these predictions using 17,211 firm-quarter observations from 1998-2006. In my tests I regress the tone of the earnings announcement on its known determinants and indicators for a stock option grant or exercise shortly following the announcement.

I do not find evidence that managers, on average, alter the tone of earnings announcements prior to option grants or exercises. However, I find that managers decrease optimistic tone prior to option grants when they also record low discretionary accruals, which suggests that altering tone and managing earnings are complementary strategies to move stock price. I also find that managers increase optimistic tone prior to option exercises when litigation risk is low, but decrease optimistic tone prior to option exercises when litigation risk is high. Further analysis indicates the litigation risk results hold only after the Sarbanes-Oxley Act of 2002. Overall, my evidence suggests that managers increase optimistic tone prior to option exercises except when a high threat of litigation constrains such opportunism. When managers do alter tone, the average financial gain is small relative to their total compensation.

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CHAPTER I

INTRODUCTION

Prior literature documents evidence that chief executive officers (CEOs) use their financial reporting and disclosure choices around stock option grants and exercises to influence stock prices and increase their wealth (e.g., Yermack 1997, Aboody and Kasznik 2000, McAnally et al. 2008, Baker et al. 2008, Heron and Lie 2007, Narayanan and Seyhun 2007). In addition to changing the timing of voluntary disclosure of financial information or using accounting discretion to alter the reported earnings number, prior literature suggests that CEOs can also influence stock prices by adjusting the tone of their narrative disclosures (Davis et al. 2008, Demers and Vega 2008). In this study, I investigate whether managers choose the language used in earnings press releases (i.e., the linguistic tone) to increase their pay-off from stock options. In so doing, my study examines whether managers adjust the language in the earnings announcement to opportunistically increase their wealth. More broadly, this study contributes to the voluntary disclosure literature by providing evidence on how managers trade-off opportunism and credibility with regard to voluntary disclosure.

One of the major challenges faced by empirical research in disclosure and earnings management has been to directly link purported opportunistic behavior to managers' wealth. Stock options provide a useful setting to test this link, since the gain from exercising an option is equal to the difference between the value of the stock on the

exercise date and the strike price, and firms almost always set the strike price equal to the stock price on the date of the grant, or "at the money" (Matsunaga 1995, Yermack 1997, McAnally et al. 2008, Baker et al. 2008). Because the pay-off from options increases when the stock price on the date of grant is lower and the stock price at the date of exercise is higher, managers have an incentive to depress the stock price just prior to option grants and inflate the stock price just prior to option exercises.

Prior literature documents that managers use several strategies to increase the value of their stock options around the grant date. Yermack (1997) finds that compensation committees issue options prior to the disclosure of good news about the firm. Heron and Lie (2007) and Narayanan and Seyhun (2007) find evidence of backdating during the 1990s, but also find backdating declined after the Sarbanes-Oxley Act of 2002 (SOX). Aboody and Kasznik (2000) and Chauvin and Shenoy (2001) find negative abnormal stock returns before option grants and positive abnormal returns after option grants, which is consistent with asymmetric timing of disclosure of good versus bad news. Baker et al. (2003, 2008), Balsam et al. (2003) and McAnally et al. (2008) find evidence of downward earnings management prior to option grants.

There is evidence that managers use similar strategies to increase the firm's stock price prior to option exercises. Bartov and Mohanram (2004), Cheng and Warfield (2005) and Bergstresser and Philippon (2006) find CEOs manage earnings upward prior to option exercises. Cheng and Lo (2006) and Noe (1999) find insiders profit from strategically trading around management forecasts.[1] However, while the prior literature

[1] Ofek and Yermack (2000) find that most executives immediately sell the shares acquired from exercising options. Therefore option exercises are effectively insider sales.

documents stock price movements around option grants and exercises consistent with managers using voluntary disclosure to increase the profit from options, with the exception of management forecasts, there is an absence of evidence regarding the specific disclosure strategies managers use to influence stock prices.

One potential strategy available to managers is to alter the narrative tone in earnings announcements to influence the manner in which the market interprets the financial information provided in these announcements.[2] For example, Davis et al. (2008) and Demers and Vega (2008) find that the optimistic tone in earnings announcements is associated with abnormal returns around the announcement date, which indicates the market (at least partially) prices disclosure tone. Although the results of these studies suggest that the narrative tone influences stock prices, it is not clear whether managers use the tone to opportunistically increase their personal wealth. Managers could use tone to disclose unbiased expectations of future performance.

Davis et al. (2008) find that the optimistic tone in earnings announcements predicts future accounting returns, while Demers and Vega (2008) and Engelberg (2008) find a relation between tone and long-run stock returns. These results suggest managers use optimistic tone to credibly communicate private information about future performance to market participants. Rogers et al. (2009) find the likelihood of disclosure related class action lawsuits increases with the optimism of the earnings announcement. This result suggests the threat of shareholder litigation encourages credible narrative disclosure. Thus, these papers are consistent with managers, on

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[2] I use the terms earnings announcement and earnings press release interchangeably throughout the paper.

average, using narrative tone to truthfully reveal expectations of future performance.

In this study, I investigate whether CEOs alter the optimistic tone of earnings press releases around stock option grants and exercises to provide evidence on the conflicting hypotheses of managerial opportunism and credible disclosure. If managers adjust the tone in their earnings press releases to increase the gain from their options, I expect a *decrease* in the optimistic tone in the press release prior to scheduled stock option grants and an *increase* in the optimistic tone in the press release prior to stock option exercises.

I also examine two settings in which managers are more likely to adjust their tone prior to option transactions. First, the results in Rogers et al. (2009) suggest that litigation risk restricts the use of optimistic tone. I partition my sample into firms with high and low litigation risk, and hypothesize that the increase in optimistic tone prior to stock option exercises is greater for firms facing low litigation risk than high litigation risk. Second, prior literature finds evidence of earnings management prior to option transactions. I hypothesize that the incentives to manage earnings are similar to the incentives to adjust tone. In other words, executives manage earnings and alter tone in a complementary manner to influence the stock price and thereby increase their payoffs from stock options.

To assess the impact of adjusting tone on managers' wealth, I compute the abnormal returns at the earnings announcement and estimate the coefficient from a regression of abnormal returns on unexpected changes in optimistic tone. Then I compute the abnormal return associated with a standard deviation change in unexpected

tone. I use this abnormal return to estimate the increase in the value of CEOs' stock options associated with altering tone prior to grants and exercises.

I conduct my tests using 17,211 firm-quarter observations from 1998-2006. On average, I do not find evidence managers alter the tone of their earnings press releases before stock option transactions. However, I find evidence of increased optimistic tone prior to option exercises for firms in low litigation industries but not high litigation industries, which suggests managers alter optimistic tone when expected litigation costs are low. This evidence suggests the threat of litigation constrains the opportunistic use of tone in earnings press releases. In addition, I find decreased optimistic tone prior to option grants for firms with low discretionary accruals, which suggests that altering tone is a complementary strategy to downward earnings management.

Prior literature documents a positive relation between optimistic tone and future performance. I find that while this result holds on average, it does not hold for firm-quarters prior to option grants and exercises. This result suggests that optimistic tone in the press release does not predict future accounting performance when the press release precedes an option transaction. One interpretation of this result is that managers alter tone to increase the value of their stock options. However, since stock options create incentives for increased managerial risk-taking and thus increased variance in future performance, it is possible that option compensation makes it more difficult for managers to accurately signal future performance.

Finally, I estimate changes in the value of CEOs' options associated with changes in optimistic tone. Specifically, I compute the changes in option values

associated with a standard deviation change in unexpected optimistic tone when litigation risk is lower or executives manage earnings downward. Adjusting tone in these settings increases the value of CEOs' options by about $16,300 on average. This evidence suggests that CEOs adjust tone to increase the value of their stock options even when the financial gain from doing so is small relative to their total compensation. However, the wealth transfer from shareholders to CEOs' as a result of altering tone is not material.

My paper contributes to three streams of literature. First, I contribute to the voluntary disclosure literature by examining whether managers use a specific disclosure strategy to increase their personal wealth. I provide evidence that managers in low litigation risk industries increase the value of their options at the time of exercise by increasing optimistic tone in the press release. Second, I extend the earnings management literature by documenting the extent to which adjusting accruals and altering tone are strategic substitutes, complements, or unrelated. Prior studies on earnings management and option compensation focus on earnings management in isolation, without examining the interaction of multiple, perhaps simultaneous strategies to increase compensation. My evidence suggests managers decrease the optimistic tone in the press release to increase the value of their option at the time of the grant in conjunction with downward earnings management.

Third, I increase our understanding of how managers trade-off opportunism and credibility in setting the tone of their disclosures. My study provides specific evidence on managers' cost-benefit analysis of stock option compensation and reputation in

capital and labor markets, and how their analysis varies with litigation risk. Specifically, I provide evidence that the threat of shareholder litigation constrains managerial opportunism. I also find, perhaps surprisingly, that managers adjust tone opportunistically even though the average gain from doing so is small. Thus my study informs market participants and regulators who are interested in the credibility of disclosures, particularly when managerial incentives encourage opportunism.

CHAPTER II

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Stock Option Compensation

The separation of ownership and control in public corporations creates agency costs (Jensen and Meckling, 1976). Theoretically, stock option compensation helps reduce agency costs by aligning the interests of senior managers and shareholders. While Jensen and Murphy (1990) found low levels of pay for performance sensitivity for CEOs in the 1980s, more recent studies such as Hall and Liebman (1998) suggest that pay for performance sensitivity has increased in the past two decades. This increase largely stems from the increase in stock option compensation, which has become the single largest component of executive compensation (Baker et al. 2008, Bryan et al. 2000). While the prevailing consensus in the empirical literature supports the theory that option compensation helps reduce agency costs (e.g., Core and Guay 1999, Bushman and Smith 2001, Hanlon et al. 2003), evidence in Core et al. (2008) indicates stock options can contribute to instances of excessive CEO compensation.

However, prior literature also finds that option compensation provides managers with the opportunity to use disclosure policies to directly increase their wealth. Because the value of a stock option is decreasing in the strike price and options are generally granted at the money, managers can increase the value of their options by reducing the stock price prior to an option grant. Prior literature has identified four strategies by

which CEOs increase option compensation around the date of the option grant: timing of disclosures, timing of the grant, backdating, and earnings management. Chauvin and Shenoy (2001) find negative abnormal returns (which they interpret as disclosure of bad news) prior to option grants. Aboody and Kasznik (2000) predict CEOs accelerate the release of bad news before the grant and delay the release of good news until after the grant. Using abnormal returns and changes in the distribution of analysts' forecasts as proxies for disclosure, they find results consistent with their predictions. Aboody and Kasznik (2000) focus on grants made on a predicable schedule (i.e., 'scheduled' grants).

In contrast, Yermack (1997) examines a sample of option grants that are not made on a predetermined schedule (i.e., 'unscheduled' grants) and finds that compensation committees grant options prior to the disclosure of good news about the firm. Yermack's (1997) findings suggest CEOs influence compensation committees to adjust the option grant date. The wealth gain from a lower strike price also serves as the motivation for the practice of backdating options. In this case, the firm adjusts the recorded grant date *ex-post* so that the recorded date coincides with a local stock price minimum. Backdating was most common in the late 1990s and was mitigated but not eliminated by the Sarbanes-Oxley Act requirement that insiders report stock option grants to the SEC within two days of the grant (Lie 2005, Heron and Lie 2007, Narayanan and Seyhun 2007).[3]

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[3] Prior to the Sarbanes-Oxley Act, insiders did not have to report grants on Form 4 (Changes in Beneficial Ownership) until 10 days after the end of month of the grant and did not have to report grants on Form 5 (Annual Summary of Changes in Beneficial Ownership) until 45 days after the end of the fiscal year of the grant. For technical reasons not all grants are required to be reported on Form 4.

There is also evidence that CEOs alter their financial reporting choices to reduce the stock price prior to option grants. Baker et al. (2008) find a negative relation between discretionary accruals and the value of option grants that follow an earnings announcement.[4] Baker et al. (2008) argue that a negative unintended consequence of the Sarbanes-Oxley Act is that in making backdating more costly it reduced the relative cost, and thus increased the likelihood, of earnings management prior to option grants. McAnally et al. (2008) find that executives manage earnings downward to intentionally miss earnings targets prior to option grants in order to lower the strike price. In sum, the evidence suggests that managers adjust their disclosures and accounting choices to depress stock price prior to option grants.

Managers can also increase the value of their options by managing earnings upward to increase the stock price just prior to option exercises. Bergstresser and Philippon (2006) find a positive association between the number of options CEOs exercise and abnormal accruals. Cheng and Warfield (2005) find managers sell more stock after just meeting or beating analysts' forecasts. Bartov and Mohanram (2004) find CEOs exercise options prior to declines in future earnings, and that the declines in future earnings are in part attributable to the reversal of upward accruals management prior to option exercise.

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[4] Consistent with prior literature in this area, I take earnings announcement timing as exogenous. Strictly speaking this is not correct as Sengupta (2004) documents firm-specific determinants of earnings announcement dates. However, Bagnoli et al. (2002) find most firms provide an expected earnings announcement date, and usually announce on the expected day, indicating systematic adjustment of earnings announcement dates is highly unlikely.

Tone in Narrative Disclosures

In this dissertation, I extend the literature on potential opportunism around stock option compensation by examining the linguistic tone in earnings announcements made just prior to an option grant or exercise. Specifically, I examine the optimistic tone (or sentiment) in earnings announcements. Davis et al. (2008) find optimistic tone in earnings announcements has a positive relation with future accounting returns, and Davis et al. (2008) and Demers and Vega (2008) find optimistic tone has a positive relation with short-window abnormal returns around the earnings announcement. In addition, Demers and Vega (2008) and Engelberg (2008) find a positive relation between optimistic tone and long-run stock returns. Collectively, these results suggest optimistic tone reveals managers' expectations of future performance. The short-term market reaction indicates the market views optimistic tone as a credible indication of future performance, although the association with long-run returns suggests the market reaction at the earnings announcement is incomplete.

Narrative tone has been validated as credible communication in settings other than earnings announcements. Tetlock (2007) finds pessimistic sentiment in a *Wall Street Journal* column predicts market wide returns over the following week and Tetlock et al. (2008) find pessimistic tone in news stories about S&P 500 firms predicts short-run returns and future accounting earnings.[5] Kothari et al. (2008) find measures of pessimistic tone in financial news stories and analysts' reports relate to firm stock return volatility and the dispersion of analysts' forecast errors. These results indicate market

[5] Tetlock (2007) uses a measure of pessimistic words that is conceptually very similar to the optimistic tone measure used in this paper. I write in terms of optimistic tone because I believe it makes my hypotheses and tone measures more intuitive.

participants view pessimistic (or optimistic-decreasing) tone as a credible signal of future performance when originating from the popular press or financial analysts.

Several conflicting stories emerge regarding the use of optimistic tone around stock option compensation. First, managers could alter the tone in the earnings announcement before option grants or exercises to increase the value of their stock options. Specifically, managers could decrease optimistic tone to lower the stock price prior to an option grant in order to create a lower exercise price, and increase optimistic tone prior to an option exercise to increase the stock price and generate a larger gain upon exercise.

However, it is not obvious that managers will alter optimistic tone as a mechanism to increase option compensation. A potential cost of altering tone is that disclosures will not correspond to future firm performance. Over time, this could lead market participants to discount the information provided in firms' disclosures. This could also lead to an increased probability of class action litigation against the firm (Rogers et al. 2009). Thus managers may use optimistic tone to truthfully convey their expectations for future firm performance.

Theoretical and empirical research is consistent with the idea that managers use their disclosures to credibly communicate information. Stocken (2000) presents an analytical model in which a manager provides a costless signal of the value of an investment opportunity, and later an audited report provides an *ex-post* assessment of the value of the investment. Stocken (2000) demonstrates that in a repeated game, managers almost always disclose truthfully. Hutton and Stocken (2007) find that managers can

develop a reputation for providing accurate guidance, and the market responds more to the guidance of high reputation managers.

While earnings management is often thought of as opportunistic, the flexibility in Generally Accepted Accounting Principles also allows managers to adjust earnings to communicate expectations of future performance. Givoly et al. (2008) find that analysts impound the managed portion of earnings into forecasts and stock recommendations, and that managed earnings are positively associated with future performance. They argue that managers adjust earnings to signal future performance. Bartov et al. (2002) find the relation between earnings that meet or beat analysts' forecasts and future performance is similar for firms suspected and not suspected of earnings management. This is consistent with earnings management truthfully signaling future performance. With specific regard to optimistic tone, the credible communication story argues CEOs adjust the optimistic tone in earnings announcements to reflect their expectations of future performance, and stock option compensation does not alter this relation.

Hypotheses

To investigate the relation between optimistic tone and option compensation, I test the following hypotheses, stated in the alternative form:

H1a: The optimistic tone in the earnings press release is *lower* when the CEO receives an option grant in the quarter following the press release.

H1b: The optimistic tone in the earnings press release is *greater* when the CEO exercises stock options in the quarter following the press release.

While H1a and H1b address the average relation between optimistic tone and stock option grants and exercises, the findings in Rogers et al. (2009) suggest that a firm's use of optimistic tone is likely influenced by the litigation risk the firm faces. Rogers et al. (2009) find the likelihood of a disclosure related shareholder lawsuit increases with the optimistic tone of earnings press releases. Furthermore, plaintiffs tend to cite the most optimistic portions of the press release as evidence the disclosures were misleading. Disclosure related shareholder lawsuits reduce stock price (Rogers et al. 2009) and presumably damage managers' labor and capital market reputations. Since overly optimistic language increases the likelihood of lawsuit, managers will not increase optimistic tone if the increased expected litigation cost is greater than the expected benefit from altering tone.

Assuming managers have unbiased expectations of litigation risk and the benefits from altering linguistic tone, managers facing higher litigation risk are less likely to increase optimistic tone in the earnings announcement. Shareholder litigation almost always alleges managers were excessively optimistic. Therefore, I expect litigation risk to mitigate optimistic tone around stock option exercises, since exercises provide a motivation to be overly optimistic. My second hypothesis, stated in the alterative, is:

H2: Managers of firms in low litigation risk industries increase optimistic tone prior to option exercises more than managers in high litigation risk industries.

Next, I examine how altering tone interacts, if at all, with adjusting reported income, i.e., earnings management. Prior literature finds evidence that firms manage

earnings downward prior to stock options grants (Baker et al. 2008, McAnally et al. 2008) and upward prior to executive stock option exercises (Bartov and Mohanram 2004). I investigate the relation between optimistic tone and option grants and exercises for firms most likely to have managed earnings. This analysis is important because it examines whether altering linguistic tone is a separate phenomenon from earnings management. It also provides evidence on whether earnings management and altering tone are complements or substitutes.

Prior empirical literature (Baker et al. 2008, McAnally et al. 2008, Bartov and Mohanram 2004) finds managers adjust reported earnings to increase stock option compensation. The costs of doing so include missing analysts' earnings forecasts due to downward earnings management (McAnally et al. 2008) or, given the reversing nature of accruals, eventually missing analysts' forecasts after repeated upward earnings management (Bartov and Mohanram 2004). Missing forecasts hurts managers' labor and capital market reputations. Thus the cost-benefit analysis for earnings management and altering tone is similar, and I expect the two mechanisms are used in similar circumstances. In other words, I expect that earnings management and altering tone are complements. I test the following hypotheses, stated in the alternative form:

H3a: Managers who adjust reported earnings *downward* prior to option grants also decrease the optimistic tone of the earnings announcement prior to option grants.

H3b: Managers who adjust reported earnings *upward* prior to option exercises also increase the optimistic tone of the earnings announcement prior to option exercises.

CHAPTER III

MEASURING TONE AND SAMPLE SELECTION

Measuring Tone

I measure optimistic tone using DICTION 5.0, an established text-analysis software program (Hart 2000, 2001). DICTION has been used in accounting research by Davis et al. (2008), Demers and Vega (2008), and Rogers et al. (2009) and has been used extensively to analyze discourse in related settings.[6] DICTION contains over 10,000 words categorized in 35 dictionaries (i.e., word lists) based on linguist theory (Hart 1984, 2000, 2001) and each dictionary contains several hundred words related to a specific concept or idea (e.g., passivity, accomplishment, concreteness, liberation). A dimension or attribute of language (e.g., optimistic tone) is represented by the words in several dictionaries, and is measured by computing the percentage of words in a document related to that dimension. DICTION measures optimistic tone as the percentage of optimistic words less the percentage of pessimistic words in a document. Consistent with prior literature (Rogers et al. 2009, Demers and Vega 2008) I measure the optimistic tone in firms' earnings announcements and term this variable *OPTIMISM_PR*. Optimistic words are from dictionaries related to praise, satisfaction,

[6] Examples include annual reports (Yuthas et al. 2002), general business communication (Ober et al. 2001), and speeches by Federal Reserve policymakers (Bligh and Hess 2005a, 2005b).

and inspiration while pessimistic words are from dictionaries related to blame, hardship, and denial.[7]

DICTION has three primary strengths as a research tool. First, because it performs text-analysis based on pre-set search rules and word dictionaries, DICTION is free from researcher subjectivity and potential bias. Second, DICTION allows for analysis of a large number of observations relative to manually reading documents and coding language attributes. Finally, DICTION was designed to study political discourse, which is similar to business communication (e.g., discussion of current events and plans for the future). It has been validated in numerous studies of firms' disclosures.[8] DICTION's primary weakness is its inability to account for context. For example, DICTION would count a double negative as two pessimistic words. However, this is unlikely to systematically bias the results of my study.

Sample Selection

I obtain data for the accounting variables from Compustat, returns data from the Center for Research on Security Prices (CRSP), analysts' forecasts and earnings surprise data come from the Institutional Brokers Estimate System (I/B/E/S), and CEO stock option grant data from Execucomp. Specifically, Execucomp includes option expiration dates, and I follow the standard methodology of inferring grant dates by assuming options expire after whole-year increments with 10 years as the most common duration (Aboody and Kasznik 2000, McAnally et al. 2008, Heron and Lie 2007). I hypothesize

[7] See Appendix A for a more complete description and examples of specific words in each dictionary.

[8] Prior literature has used DICTION to analyze earnings announcements (Davis et al. 2008, Demers and Vega 2008, Rogers et al. 2009), annual reports (Yuthas et al. 2002) and the Management Discussion and Analysis section of form 10-K (Ober et al. 1999).

(H1a) CEOs alter the tone of earnings announcements to influence the strike price of option grants. This implicitly assumes CEOs have prior knowledge of the option grant date. Following prior literature (Aboody and Kasznik 2000, McAnally et al. 2008, Heron and Lie 2007) I infer CEOs have prior knowledge of scheduled grants only, and define scheduled grants as grants on the same month and day (plus or minus seven days) as a grant in the prior calendar year.[9] I term this the traditional measure of scheduled option grants.

I employ two methods to identify the date and number of shares of specific option exercises. For exercises in 1998 through 2001 I manually search *Investor's Chronicle* summary of insider transactions and record sales of common stock related to option exercises. However, *Investor's Chronicle* ceased publication in late 2001. As a result my 2002 data contains significant measurement error because I cannot identify option exercise transactions, yet undoubtedly some occurred. Therefore I omit observations for which the press release occurred in 2002. Since July 1, 2003 firms have been required to provide insider transaction information to the Securities and Exchange Commission (SEC) by filing Form 4 electronically via *EDGAR*. For this time period I acquire stock option exercise information using *10K Wizard* to access Form 4 data.

I use two sources of earnings press releases. The first set is from *PR Newswire* and covers 1998-2003.[10] I match financial variables for the firm-quarter corresponding

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[9] Heron and Lie (2007) find evidence of backdating for unscheduled grants and backdated grants add significant noise to my tests. Removing unscheduled grants provides a cleaner and more powerful test of my hypotheses. Results for tests on the full sample of grants are presented as a robustness check.

[10] I thank Angela Davis, Jeremy Piger and Lisa Sedor for graciously sharing this data with me.

to the press release and retain observations containing all variables required for my tests. The second set of earnings announcements is obtained from *10K Wizard* and covers 2004-2006.[11] For this time period, I first identify all firm-quarters with the necessary financial data for my tests. I retain all observations for which I can identify an earnings press release. An 'event' firm-quarter is comprised of the financial variables for quarter (t), the optimistic tone of the earnings press release related to quarter (t), and a stock option grant or exercise between the press release and the end of quarter (t+1). A 'control' firm quarter is comprised of financial variables and a corresponding press release for quarter (t), but without a stock option grant or exercise. Table 1, Panel A outlines the sample selection procedure.

If a CEO exercises options several times between the press release and quarter end I consider the date of the exercise to be the date of the first exercise. I record the number of shares acquired from exercise as the sum of the shares acquired from all exercises during the quarter. Thus a CEO-firm-quarter appears in the sample only once.

Table 1, Panel B shows the observations by year, including the number of grant and exercise observations per year. The number of observations increases substantially from 2004 onward. I attribute this to the fact I have access to press releases from all public firms, while the 1998-2003 data is based on press releases from *PR Newswire*.

[11] Regulation Fair Disclosure (2000) requires firms to file an 8-K with the SEC upon issuing a press release. The press release is attached to the 8-K and thus is available on EDGAR and via *10K Wizard*.

Table 1: Sample Selection

Panel A: Data Collection Process

1998-2003 sample of press releases from Davis et al. (2008)	23,443
Less observations missing financial variables	(14,680)
Less observations from 2002	(1,941)
1998-2003 sample	6,822
2004-2006 firm years with financial variables in CRSP, Compustat, IBES and ExecuComp	16,810
Less observations missing press releases on *10K Wizard*	(6,211)
2004-2006 sample	10,599
Sub-total	17,481
Less firm-quarters with both an option grant and option exercise	(270)
Total sample	17,211
Grant observations	2,490
Exercise observations	1,661

Panel B: Firm-quarter Observations per Year

YEAR	Grant (Sched-T)	Grant (Sched-R)	Grant (All)	Exercise	Total
1998	27	16	64	9	272
1999	139	86	337	40	1,540
2000	116	79	309	50	1,487
2001	139	84	373	34	1,672
2003	156	90	333	84	1,832
2004	241	120	524	344	3,061
2005	231	7	519	490	3,678
2006	15	0	31	610	3,669
Total	1,064	482	2,490	1,661	17,211

CHAPTER IV

RESEARCH DESIGN

Research Design Overview

I test my hypotheses in four steps. In the first step I regress the optimistic tone in the press release on its known determinants and indicator variables for the existence of option grants and exercises. This test provides evidence on the average relation between optimistic tone and option grants and exercise, and thus tests H1a and H1b. Second, I partition the sample along litigation risk. I test H2 using these sub-samples to determine if managers of firms facing low litigation risk increase optimistic tone prior to option exercises more than managers of firms facing high litigation risk. Third, I investigate if altering optimistic tone and managing earnings prior to option transactions are complementary strategies, which provides evidence on H3a and H3b. Finally I measure the relation between optimistic tone and short-window abnormal returns. This allows me to quantify the economic impact of purported opportunistic use of tone.

Research Design for Hypothesis One

Earnings press releases are a listing requirement of the major stock exchanges in the United States. Firms usually issue quarterly earnings announcements within a few weeks of the quarter end. The National Investor Relations Institute (NIRI) issued best practice guidelines in 2001 for the content of earnings press releases. These guidelines

specify that press releases include current period results under Generally Accepted Accounting Principles and "should ordinarily include analyses of operating results and a discussion of both positive and negative factors significantly affecting revenue, profitability and other key financial indicators that measure the health of the enterprise (e.g., debt to equity ratios, etc.)" (NIRI, 2001). In addition, NIRI guidelines recommend discussing expected performance for upcoming quarters.

The guidelines suggested by NIRI form the basis of the empirical model of the determinants of tone in the press release developed in Davis and Tama-Sweet (2009). The model primarily consists of variables related to current period operating performance. Given that anecdotal evidence suggests press releases often include fiscal year-to-date results in addition to current quarter results, I include several measures of prior performance. Finally, I include indicator variables for option grants and exercises. I run the following pooled regression:

$$OPTIMISM\_PR_{it} = a + b_1 GRANT_{it} + b_2 EXERCISE_{it} + b_3 FUT\_ROA_{it} + b_4 OPTIMISM\_PR_{i(t-1)} + b_5 LOGWC_{it} + b_6 PCT\_JMOB_{it} + b_7 SD\_ROA_{it} + b_8 ROA_{it} + b_9 LOSS_{it} + b_{10} BEAT_{it} + b_{11} SURP_{it} + b_{12} SI\_DUM_{it} + b_{13} ABS\_ACCR_{it} + b_{14} LOGREV_{it} + b_{15} DA_{it} + b_{16} BM_{it} + \Sigma_j b_{17j} QTR_{itj} + \Sigma_j b_{18j} YEAR_{itj} + \Sigma_k b_{19k} INDUSTRY_{itk} + e \quad (1)$$

OPTIMISM_PR is computed as the percentage of words in the press release that are optimistic less the percentage of words that are pessimistic.[12] *GRANT* and

[12] For a complete description of all the variables see Appendix B.

EXERCISE are indicator variables that equal one if the CEO either received a (scheduled) option grant or exercised options between the earnings announcement and the end of the quarter.[13,14] H1a predicts a negative coefficient on *GRANT*. A negative coefficient implies that managers use less optimistic tone prior to option grants. H1b predicts a positive coefficient on *EXERCISE*. A positive coefficient indicates that prior to option exercises, managers use more optimistic tone in the press release. Given that prior literature finds a positive relation between optimistic tone and short-window returns, these predictions imply managers alter tone to influence stock prices and thereby increase option compensation.

Variable Definitions

FUT_ROA is measured as the average return on assets over the four quarters following quarter (t). *LOGWC* is the log of the number of words in the press release. *PCT_JMOB* is the number of times in the prior four quarters the firm just met or beat the median analyst forecast, expressed as a percent. The median forecast is from the final set of analysts' forecasts before the earnings announcement. The median forecast and actual earnings are from I/B/E/S. *ROA* is computed as income before extraordinary items scaled by assets (IBQ/ATQ).[15] *SD_ROA* is the standard deviation of *ROA* over the four quarters prior to quarter (t). *LOSS* is an indicator equal to one if income before extraordinary items (IBQ) is less than zero. *BEAT* is an indicator equal to one if I/B/E/S

[13] Suppose a firm has a calendar year end and the second quarter ends on June 30. If the press release for the second quarter is on July 31, for grants (exercises) that occur between August 1 and September 30, *GRANT* (*EXERCISE*) equals one.

[14] Huddart et al. (2007) find managers are most likely to trade after the earnings press release because legal jeopardy is lower compared to right before the press release.

[15] Unless otherwise specified, data names refer to the Compustat XPF quarterly database.

actual earnings are greater than the I/B/E/S median analyst forecast. *SURP* is a continuous variable computed as actual I/B/E/S earnings less the median I/B/E/S analyst forecast, scaled by beginning of the quarter stock price ($PRCCQ_{t-1}$). *SI_DUM* is an indicator equal to one if any of the special item fields in Compustat (GDWILIPQ, SETPQ, RCPQ, WDPQ, SPIOPQ) are non-zero, and zero otherwise. *ABS_ACCR* is the absolute value of accruals, computed as income before extraordinary items less cash flow from operation, scaled by average assets ($(IBQ - OANCFY)/((ATQ+ATQ_{t-1})/2)$). *LOGREV* is the natural log of sales (SALEQ). *DA* is the total debt to assets ratio (LTQ/ATQ). *BM* is the ratio of book value of equity to market value of equity (CEQQ/(PRCCQ*CSHOQ)). *QTR* is a series of indicator variables for fiscal quarter, *YEAR* is a series of indicator variables for calendar year, and *INDUSTRY* is a series of indicator variables based on two-digit SIC code.

The explanatory variables in equation (1) represent determinants of optimistic tone. A positive coefficient on *FUT_ROA* is consistent with managers using optimistic tone to truthfully communicate their expectations for future performance. $OPTIMISM\_PR_{(t-1)}$ is the optimistic tone in the prior quarter which helps capture unobserved determinants of tone not otherwise captured in the model. *LOGWC* controls for the length of the press release. Evidence suggests that firms have longer disclosures when explaining poor operating results (Matsumoto et al. 2007). The next two variables relate to the firm's prior performance. *PCT_JMOB* is included to capture the firm's incentives to engage in earnings management (D'Souza et al. 2007). *SD_ROA* controls for uncertainty and seasonality in the operating environment.

ROA, *LOSS*, *BEAT* and *SURP* are measures of current period income. *SI_DUM* and *ABS_ACCR* are included because special items or large accruals are usually discussed in the press release (per NIRI guidelines) and thus could impact the optimistic tone. *LOGREV* controls for systematic differences in optimistic tone related to firm size. The next two variables, *DA* and *BM*, are common 'financial indicators'. I include these because NIRI guidelines suggest that firms discuss key financial indicators, and the value of these variables could help explain the language used to describe them.

Research Design for Hypothesis Two

My tests of H1a and H1b provide evidence on the average relation between stock option transactions and optimistic tone in the press release. H2 predicts that managers facing low litigation risk increase optimistic tone prior to option exercises more than managers facing high litigation risk. I partition my sample into firms with high (*HIGH_LITIGATION)* and low (*LOW_LITIGATION*) litigation risk. Following Francis et al. (1994), firms face high litigation risk if they belong to one of the following industries (SIC codes in parentheses): pharmaceuticals/biotechnology (2833-2836, 8731-8734), computers (3570-3577, 7370-7374), electronics (3600-3674), and retail (5200-5961). To test the impact of litigation risk, I estimate equation (1) separately for the *HIGH_LITIGATION* sample and the *LOW_LITIGATION* sample. Hypothesis H2 predicts the coefficient on *EXERCISE* for the *LOW_LITIGATION* sample is positive and larger than the coefficient on *EXERCISE* for the *HIGH_LITIGATION* sample.

Research Design for Hypothesis Three

H3 predicts that discretionary accruals and narrative tone are complementary strategies to change stock price prior to stock option transactions. To provide evidence on the relation between optimistic tone and option transactions in the presence of earnings management, I extend equation (1) to include indicator variables for grants and exercises that occur after a firm managed earnings downward or upward. I measure earnings management using discretionary accruals based on the Jones (1991) model as modified by Dechow et al. (1995). I implement the modified-Jones model using cross-sectional industry-year-quarter regressions. I consider firm-quarters in the highest quintile of discretionary accruals (*HIGH_DACC*) upward earnings management firm-quarters and firm-quarters in the lowest quintile of discretionary accruals (*LOW_DACC*) downward earnings management firm quarters. I run the following pooled regression:

$$OPTIMISM\_PR_{it} = a + b_1GRANT(LOW\_DACC)_{it} + b_2GRANT_{it} + b_3EXERCISE(HIGH\_DACC)_{it} + b_4EXERCISE_{it} + b_5LOW\_DACC_{it} + b_6HIGH\_DACC_{it} + b_7FUT\_ROA_{it} + b_8OPTIMISM\_PR_{i(t-1)} + b_9LOGWC_{it} + b_{10}PCT\_JMOB_{it} + b_{11}SD\_ROA_{it} + b_{12}ROA_{it} + b_{13}LOSS_{it} + b_{14}BEAT_{it} + b_{15}SURP_{it} + b_{16}SI\_DUM_{it} + b_{17}ABS\_ACCR_{it} + b_{18}LOGREV_{it} + b_{19}DA_{it} + b_{20}BM_{it} + \Sigma_j b_{21j}QTR_{itj} + \Sigma_j b_{22j}YEAR_{itj} + \Sigma_k b_{23k}INDUSTRY_{itk} + e \quad (2)$$

Equation (2) extends equation (1) by including indicators for grants after a firm managed earnings downward (*GRANT(LOW_DACC)*), for exercises after a firm

managed earnings upward (*EXERCISE(HIGH_DACC)*), and for high (*HIGH_DACC*) and low (*LOW_DACC*) discretionary accruals. H3a predicts that when managers reduce reported earnings before option grants they also reduce optimistic tone in the press release. Thus H3a predicts the sum of the coefficients on *GRANT* and *GRANT(LOW_DACC)* is negative. Similarly, H3b predicts the sum of the coefficients on *EXERCISE* and *EXERCISE(HIGH_DACC)* is positive. To provide evidence on these hypotheses, I conduct an F-test to determine if the sum of the coefficients is different from zero.

Measuring Changes in the Value of CEOs' Stock Options

The prior tests provide evidence regarding the extent to which managers adjust the optimistic tone in earnings announcements prior to option transactions. I next examine the magnitude of the market reaction to changes in optimistic tone. While a positive relation between optimistic tone and short-window abnormal returns is established in prior literature, I estimate this relation for my sample and use the estimate to compute compensation gains related to changes in tone. This estimation is necessary to link potentially opportunistic behavior to increases in CEO wealth. Since market participants have an expectation of the optimistic tone in the press release, I investigate the market reaction to unexpected optimistic tone instead of the level of optimistic tone. I measure unexpected optimistic tone as the residual from a determinants model of tone developed by Davis et al. (2008) and Davis and Tama-Sweet (2009):

$$OPTIMISM\_PR_{it} = a + b_1 FUT\_ROA_{it} + b_2 OPTIMISM\_PR_{i(t-1)} + b_3 LOGWC_{it} + b_4 PCT\_JMOB_{it} + b_5 SD\_ROA_{it} + b_6 ROA_{it} + b_7 LOSS_{it} + b_8 BEAT_{it} + b_9 SURP_{it} + b_{10} SI\_DUM_{it} + b_{11} ABS\_ACCR_{it} + b_{12} LOGREV_{it} + b_{13} DA_{it} + b_{14} BM_{it} + \Sigma_j b_{15j} QTR_{itj} + \Sigma_j b_{16j} YEAR_{itj} + \Sigma_k b_{17k} INDUSTRY_{itk} + e \quad (3)$$

The determinants model is the same as equation (1) except for the exclusion of *GRANT* and *EXERCISE*. The residual from the determinants model is the unexpected optimistic tone (*UNEXP_OPT*).[16] I regress abnormal returns around the earnings announcement against *UNEXP_OPT* to estimate the magnitude of the price reaction to the optimistic tone in the earnings announcement. I use a model developed by Davis et al. (2008):

$$CAR\_PR_{it} = a + b_1 UNEXP\_OPT_{it} + b_2 SURP_{it} + b_3 BEAT_{it} + b_4 LOSS_{it} + + \Sigma_j b_{5j} YEAR_{itj} + \Sigma_k b_{6k} INDUSTRY_{itk} + e \quad (4)$$

CAR_PR is the cumulative abnormal return for the three days centered on the earnings press release. Each daily return is adjusted by the return of a matched size and book to market portfolio.[17] A non-zero coefficient on *UNEXP_OPT* is consistent with the market reacting to the unexpected optimistic tone in the earnings announcement. A positive coefficient is consistent with managers truthfully communicating expectations

[16] In sensitivity tests, I examine an alternate measure of unexpected optimistic tone.
[17] I create 25 size and book to market portfolios based on the methodology, breakpoints and return data from Ken French's website (http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library).

for future performance and is consistent with prior literature (Davis et al. 2008, Demers and Vega 2008).

The coefficient on *UNEXP_OPT* in equation (4) indicates the average relation between unexpected optimistic tone and short-window returns across all firm-quarters. I also estimate equation (4) for sub-samples related to my hypotheses: low litigation risk firms and firm-quarter in the extreme quintiles of discretionary accruals. For each sub-sample the coefficient on *UNEXP_OPT* provides an upper bound for the abnormal return, and therefore the increase in managerial wealth, associated with a change in optimistic tone prior to an option grant or exercise.

CHAPTER V

EMPIRICAL RESULTS

Summary Statistics

Table 2 presents summary statistics for my dataset. All continuous variables have been winsorized at the 1% level to control for outliers. The mean *OPTIMISM_PR* is 0.769, indicating that on average press releases are more optimistic than pessimistic. Evidence suggests the firms in my sample are profitable. The mean *ROA* and mean *FUT_ROA* are 1.5% and 1.4%. Approximately 12% of firm-quarters report a loss (*LOSS*=1), and firms meet or beat analysts' earnings expectations about 75% of the time (*BEAT*=1). Finally, I find scheduled option grants in 6.2% of firm-quarters (*GRANT(SCHED-T)*=1) and option exercises in 9.7% of firm-quarters (*EXERCISE*=1).

A correlation matrix, presented in Table 3, provides initial evidence on the relation between pessimistic tone, option transactions and future performance. Optimistic tone positively correlates with current and future return on assets. However, the correlation between optimistic tone and option exercises is not significant and there is a significantly positive correlation between optimistic tone and stock option grants. The coefficient is only 0.029, yet this result is statistically significant in the opposite direction of my prediction in H1a.

Table 2: Summary Statistics

Variable	Mean	Median	SD	Min	Max
OPTIMISM_PR	0.769	0.690	0.683	-0.600	2.990
UNEXP_OPT	0.000	-0.025	0.443	-2.288	2.863
EXERCISE	0.097	0.000		0.000	1.000
GRANT (SCHED-T)	0.062	0.000		0.000	1.000
GRANT (SCHED-R)	0.028	0.000		0.000	1.000
GRANT (ALL)	0.145	0.000		0.000	1.000
FUT_ROA	0.014	0.013	0.019	-0.063	0.070
LOGWC	7.472	7.457	0.583	5.964	9.065
PCT_JMOB	0.490	0.500	0.332	0.000	1.000
SD_ROA	0.009	0.005	0.013	0.000	0.088
ROA	0.015	0.013	0.021	-0.071	0.081
LOSS	0.121	0.000	0.327	0.000	1.000
BEAT	0.745	1.000	0.436	0.000	1.000
SURP	0.014	0.010	0.077	-0.310	0.315
SI_DUM	0.280	0.000		0.000	1.000
ABS_ACCR	0.045	0.024	0.054	0.000	0.266
LOGREV	5.991	5.885	1.498	2.748	9.794
DA	0.529	0.536	0.215	0.083	0.948
MB	3.287	2.377	2.972	0.569	19.268
HI_LIT	0.297	0.000		0.000	1.000
DACC	0.000	-0.001	0.033	-0.102	0.116
CAR_PR	0.005	0.002	0.076	-0.512	0.606

For complete variable definitions see Appendix B. The reported statistics are based on 17,211 observations for all variables except *DACC*, for which the statistics are based on 13,461 observations.

Table 3: Correlations

	OPT_ PR	ROA	FUT_ ROA	GRANT (SCHED-T)	GRANT (ALL)	EXER- CISE	HI_LIT
OPTIMISM_PR	1.000						
ROA	0.119 0.000	1.000					
FUT_ROA	0.114 0.000	0.684 0.000	1.000				
GRANT (SCHED-T)	0.029 0.000	-0.004 0.598	0.010 0.203	1.000			
GRANT (ALL)	0.022 0.004	-0.029 0.000	-0.031 0.000	0.624 0.000	1.000		
EXERCISE	0.005 0.493	0.101 0.000	0.111 0.000	-0.084 0.000	-0.134 0.000	1.000	
HI_LIT	-0.070 0.000	0.029 0.000	0.005 0.537	-0.028 0.000	0.023 0.002	0.024 0.002	1.000
DACC	-0.006 0.472	0.064 0.000	0.020 0.020	-0.006 0.494	0.006 0.495	0.004 0.608	0.005 0.535

Correlation coefficients are listed on the first line: p-values are listed on second line. For complete variable definitions see Appendix B.

Before beginning my tests, I replicate the results of Davis et al. (2008) to ensure the relation between future return on assets and optimistic tone holds for my sample. The results are presented in Table 4. The coefficient on *OPTIMISM_PR* is positive and significant, and of similar magnitude to the results in Davis et al. (2008).

Table 4: Optimistic Tone and Future Return on Assets

Replication of Davis et al. (2008)	
	(1)
	FUT_ROA
ROA	0.442***
	(0.000)
SD_ROA	-0.078***
	(0.000)
LOGREV	0.001***
	(0.000)
SURP	-0.002
	(0.331)
BEAT	0.002***
	(0.000)
LOSS	-0.000
	(0.799)
PM	0.005*
	(0.075)
AT	0.009***
	(0.000)
LEV	-0.013***
	(0.000)
MB	0.001***
	(0.000)
OPTIMISM_PR	0.001***
	(0.000)
YEAR/INDUSTRY	Included
CONSTANT	0.009
	(0.152)
OBSERVATIONS	17,211
ADJUSTED R^2	0.533

Robust p-values in parentheses. based on Huber-White adjusted standard errors. *. **. *** indicate significance at 10%. 5% and 1% levels based on two-tailed tests. For complete definitions see Appendix B.

Tests of Hypotheses

The results of my first multivariate test are presented in Table 5, Panel A. The two columns present results using different definitions of option grants. In column (1), *GRANT* includes scheduled grants measured as in prior literature as grants on the same month and day (plus or minus seven days) as a grant in the prior calendar year (i.e., the traditional definition).

In column (2), *GRANT* includes scheduled grants measured as grants on the same month and day (plus or minus seven days) as a grant in the prior *and* following calendar year. This more restrictive definition reduces the number of grants classified as scheduled, but increases the likelihood the CEO knows the grant is forthcoming.

H1a predicts a negative coefficient on *GRANT*. However, I find the coefficient (p-value) on *GRANT* is 0.004 (0.726) for the traditional definition of scheduled grants and -0.027 (0.220) for the restrictive definition of scheduled grants. This evidence does not support the prediction in H1a that managers reduce optimistic tone prior to option grants. The coefficients on *EXERCISE* are also insignificant with coefficients (p-values) of 0.005 (0.675) and 0.004 (0.726).[18] This evidence does not support the prediction in H1b that managers increase optimistic tone prior to option exercises. Consistent with prior literature, I find a coefficient (p-value) on *FUT_ROA* of about 0.96 (0.000) in each of the two specifications, which indicates that optimistic tone can be used to predict future accounting returns. The evidence in Panel A of Table 5 suggests that, on average,

[18] It is not surprising that the coefficient on *EXERCISE* does not change much based on the definition of *GRANT*.

managers use optimistic tone to credibly signal future accounting performance and do not adjust optimistic tone in the press release to increase option compensation.

To further investigate the relation between future performance and optimistic tone, I partition the sample into two groups based on whether or not the press release occurs before a grant or exercise. If managers use tone to credibly signal future performance, I expect a positive relation between optimistic tone and future performance for both samples of press releases. An insignificant relation between tone and future performance for press releases that precede option transactions would suggest managers do not use tone to signal future performance prior to option activity. I estimate equation (3) for the full sample and the two sub-samples and present the results in Table 5, Panel B. For the full sample, the coefficient (p-value) on *FUT_ROA* is 0.959 (0.000). However, for quarters in which the press release preceded an option transaction the coefficient (p-value) on *FUT_ROA* is 0.358 (0.572) while the coefficient (p-value) on *FUT_ROA* is 1.07 (0.000) for quarters in which the press release did not precede an option transaction.

While the evidence in Panel A suggests that managers do not adjust their tone prior to an option grant or exercise, the results in Panel B suggest an insignificant relation between the tone and future performance when the press release is followed by an option transaction. One potential explanation for these results is that option transactions occur when firms operate in highly uncertain environments, and as a result optimistic tone in the earnings release becomes a noisy signal of future performance.

Table 5: Tests of the Relation between Optimistic Tone and Stock Option Transactions

Panel A

		(1)	(2)
	Prediction	OPTIMISM_PR	OPTIMISM_PR
GRANT (SCHED-T)	-	0.004	
		(0.762)	
GRANT (SCHED-R)	-		-0.027
			(0.220)
EXERCISE	+	0.005	0.004
		(0.675)	(0.726)
FUT_ROA		0.954***	0.964***
		(0.000)	(0.000)
LAG_OPTIMSIM		0.699***	0.699***
		(0.000)	(0.000)
LOGWC		0.038***	0.039***
		(0.000)	(0.000)
PCT_JMOB		0.036***	0.036***
		(0.002)	(0.002)
SD_ROA		-0.314	-0.319
		(0.233)	(0.225)
ROA		0.234	0.226
		(0.391)	(0.406)
LOSS		-0.048***	-0.048***
		(0.001)	(0.001)
BEAT		0.038***	0.038***
		(0.000)	(0.000)
SURP		0.239***	0.238***
		(0.000)	(0.000)
SI_DUM		-0.024***	-0.024***
		(0.005)	(0.005)
ABS_ACCR		-0.151*	-0.151*
		(0.098)	(0.097)
LOGREV		0.006*	0.006*
		(0.091)	(0.084)
DA		0.090***	0.090***
		(0.000)	(0.000)
MB		0.001	0.001
		(0.566)	(0.557)
QTR/YR/IND		Included	Included
CONSTANT		-0.194**	-0.193**
		(0.020)	(0.020)
OBSERVATIONS		17,211	17,211
ADJUSTED R^2		0.577	0.577

Robust p-values in parentheses, based on Huber-White adjusted standard errors. *, **, *** indicate significance at 10%, 5% and 1% levels based on two-tailed tests. For complete definitions see Appendix B.

Table 5 (continued)

Panel B	Full sample	Grant/ exercise qtrs	Non-option quarters
	(1)	(2)	(3)
	OPTIMISM_PR	OPTIMISM_PR	OPTIMISM_PR
FUT_ROA	0.959***	0.358	1.070***
	(0.000)	(0.572)	(0.000)
LAG_OPTIMSIM	0.699***	0.741***	0.689***
	(0.000)	(0.000)	(0.000)
LOGWC	0.038***	0.010	0.046***
	(0.000)	(0.629)	(0.000)
PCT_JMOB	0.036***	0.074**	0.029**
	(0.002)	(0.011)	(0.019)
SD_ROA	-0.316	0.438	-0.439
	(0.229)	(0.533)	(0.123)
ROA	0.234	1.322*	0.090
	(0.391)	(0.074)	(0.759)
LOSS	-0.048***	-0.013	-0.053***
	(0.001)	(0.741)	(0.000)
BEAT	0.038***	0.041	0.037***
	(0.000)	(0.123)	(0.001)
SURP	0.239***	0.295**	0.228***
	(0.000)	(0.022)	(0.000)
SI_DUM	-0.024***	-0.035*	-0.022**
	(0.005)	(0.097)	(0.019)
ABS_ACCR	-0.150*	0.163	-0.201**
	(0.099)	(0.513)	(0.040)
LOGREV	0.006*	0.010	0.005
	(0.086)	(0.240)	(0.204)
DA	0.089***	0.153**	0.075***
	(0.000)	(0.018)	(0.004)
MB	0.001	-0.006*	0.002
	(0.553)	(0.081)	(0.179)
QTR/YR/IND	Included	Included	Included
CONSTANT	-0.195**	0.039	-0.218**
	(0.019)	(0.827)	(0.015)
OBSERVATIONS	17,211	2,725	14,486
ADJUSTED R^2	0.577	0.630	0.566

Robust p-values in parentheses. based on Huber-White adjusted standard errors. *. **. *** indicate significance at 10%. 5% and 1% levels based on two-tailed tests. For complete definitions see Appendix B.

Next I investigate the settings in which managers are more likely to alter their use of optimistic language. H2 predicts a positive coefficient on *EXERCISE* for *LOW_LITIGATION* firms and that the coefficient on *EXERCISE* for the *LOW_LITIGATION* sample is larger than the coefficient on *EXERCISE* for the *HIGH_LITIGATION* sample. Table 6, Panel A presents the results for *LOW_LITIGATION* firms and Panel B presents results for *HIGH_LITIGATION* firms. I discuss the results using the traditional definition of scheduled grants. The results using the more rigid definition of scheduled grants are very similar.

In Panel A, column (1) the coefficient of 0.031 on *EXERCISE* is significant for low litigation firms, with a p-value of 0.026. This is consistent with managers increasing the optimistic tone prior to stock option exercises when litigation risk is low and supports H2. For *HIGH_LITIGATION* firms the results in Panel B, column (1) show the coefficient (p-value) on *EXERCISE* is -0.041 (0.035). This evidence indicates managers *reduce* optimistic tone prior to option exercises when litigation risk is higher. Consistent with H2, the coefficient on *EXERCISE* is larger for the *LOW_LITIGATION* sample than the *HIGH_LITIGATION* sample. One interpretation of this result is that high litigation risk leads managers to be excessively pessimistic in press releases prior to option exercises. This is consistent with the findings in Rogers et al. (2009) that almost all disclosure related lawsuits claim that managers were overly optimistic, and therefore managers have an incentive to be less optimistic to reduce the likelihood of litigation, especially prior to insider sales. These results imply the threat of litigation constrains the opportunistic use of tone in the press releases.

Table 6: Optimistic Tone and Stock Option Transactions: The Impact of Litigation Risk

Panel A: *LOW_LITIGATION* firms

		(1)	(2)
	Prediction	OPTIMISM_PR	OPTIMISM_PR
GRANT (SCHED-T)	-	0.006	
		(0.712)	
GRANT (SCHED-R)	-		-0.035
			(0.176)
EXERCISE	+	0.031**	0.030**
		(0.026)	(0.031)
FUT_ROA		1.031***	1.042***
		(0.005)	(0.005)
LAG_OPTIMSIM		0.695***	0.695***
		(0.000)	(0.000)
LOGWC		0.052***	0.052***
		(0.000)	(0.000)
PCT_JMOB		0.055***	0.056***
		(0.000)	(0.000)
SD_ROA		0.309	0.299
		(0.440)	(0.456)
ROA		-0.298	-0.307
		(0.434)	(0.419)
LOSS		-0.076***	-0.076***
		(0.000)	(0.000)
BEAT		0.036***	0.036***
		(0.003)	(0.002)
SURP		0.228***	0.228***
		(0.000)	(0.000)
SI_DUM		-0.026**	-0.026**
		(0.013)	(0.013)
ABS_ACCR		-0.225*	-0.226*
		(0.059)	(0.059)
LOGREV		0.008*	0.008**
		(0.053)	(0.047)
DA		-0.007	-0.007
		(0.842)	(0.838)
MB		0.006***	0.006***
		(0.007)	(0.006)
QTR/YR/IND		Included	Included
CONSTANT		-0.307***	-0.306***
		(0.001)	(0.001)
OBSERVATIONS		12,091	12,091
ADJUSTED R^2		0.579	0.579

Robust p-values in parentheses, based on Huber-White adjusted standard errors. *, **, *** indicate significance at 10%, 5% and 1% levels based on two-tailed tests. For complete definitions see Appendix B.

Table 6 (continued)

Panel B: *HIGH_LITIGATION* firms

		(1)	(2)
	Prediction	OPTIMISM_PR	OPTIMISM_PR
GRANT (SCHED-T)	-	0.001	
		(0.959)	
GRANT (SCHED-R)	-		0.004
			(0.929)
EXERCISE	+	-0.041**	-0.041**
		(0.035)	(0.034)
FUT_ROA		0.714**	0.713**
		(0.035)	(0.036)
LAG_OPTIMSIM		0.691***	0.691***
		(0.000)	(0.000)
LOGWC		0.015	0.015
		(0.411)	(0.411)
PCT_JMOB		0.009	0.009
		(0.661)	(0.661)
SD_ROA		-0.873**	-0.873**
		(0.013)	(0.013)
ROA		0.935**	0.935**
		(0.019)	(0.018)
LOSS		-0.004	-0.004
		(0.881)	(0.882)
BEAT		0.053***	0.053***
		(0.005)	(0.005)
SURP		0.262*	0.262*
		(0.055)	(0.055)
SI_DUM		-0.022	-0.022
		(0.125)	(0.125)
ABS_ACCR		0.007	0.007
		(0.959)	(0.958)
LOGREV		0.005	0.005
		(0.312)	(0.312)
DA		0.189***	0.189***
		(0.000)	(0.000)
MB		-0.004**	-0.004**
		(0.038)	(0.038)
QTR/YR/IND		Included	Included
CONSTANT		0.261*	0.261*
		(0.060)	(0.060)
OBSERVATIONS		5,120	5,120
ADJUSTED R^2		0.569	0.569

Robust p-values in parentheses. based on Huber-White adjusted standard errors. *. **. *** indicate significance at 10%. 5% and 1% levels based on two-tailed tests. For complete definitions see Appendix B.

I next discuss the tests of H3, which predicts that managers who reduce reported earnings prior to option grants and increase reported earnings prior to option exercises also adjust optimistic tone in the same direction. Specifically, H3a predicts that the sum of the coefficients on *GRANT(LOW_DACC)* and *GRANT* is negative and H3b predicts the sum of the coefficients on *EXERCISE(HIGH_DACC)* and *EXERICSE* is positive.

Table 7, column (1) presents results for the traditional definition of scheduled option grants. The results of F-tests for the sum of the coefficients are not significant for either grants or exercises. This evidence does not support H3a or H3b. Column (2) presents results for the restricted definition of scheduled option grants. The sum of the coefficients on *GRANT(LOW_DACC)* and *GRANT* is -0.096 with a p-value from the F-test of 0.066. This indicates that when managers record low discretionary accruals prior to an option grant, they also reduce the optimistic tone in the press release. The F-test of the sum of the exercise coefficients is insignificant. This evidence suggests that when managers are most likely to know of forthcoming option grants (i.e., the restricted definition of scheduled grants) and they manage earnings downward, they also use less optimistic tone in the press release. It provides some support for H3a and indicates managing earnings downward and reducing optimistic tone are complementary strategies to lower stock price.

Table 7: Optimistic Tone and Stock Option Transactions: The Impact of Discretionary Accruals

Discretionary accruals			
		(1)	(2)
	Prediction	OPTIMISM_PR	OPTIMISM_PR
GRANT(LOW_DACC)		0.006	
(SCHED-T)		(0.899)	
GRANT (SCHED-T)		0.003	
		(0.821)	
GRANT(LOW_DACC)			-0.079
(SCHED-R)			(0.166)
GRANT			-0.017
			(0.490)
EXER (HIGH_DACC)		-0.036	-0.035
		(0.263)	(0.271)
EXERERCISE		0.011	0.010
		(0.373)	(0.410)
LOW_DACC		0.011	0.013
		(0.290)	(0.204)
HIGH_DACC		-0.018*	-0.018*
		(0.094)	(0.088)
FUT_ROA		0.943***	0.953***
		(0.000)	(0.000)
CONTROLS		Included	Included
QTR/YR/IND		Included	Included
CONSTANT		-0.194**	-0.191**
		(0.019)	(0.022)
OBSERVATIONS		17,211	17,211
ADJUSTED R^2		0.577	0.577
F-TESTS:			
Sum of coefficients			
GRANT	-	0.009	
		(0.829)	
GRANT	-		-0.096
			(0.066)*
EXERCISE	+	-0.025	-0.025
		(0.405)	(0.400)

Robust p-values in parentheses. based on Huber-White adjusted standard errors. *. **. *** indicate significance at 10%. 5% and 1% levels based on two-tailed tests. For complete definitions see Appendix B. Additional control variables are included in the estimation but omitted from the table for the sake of brevity.

Estimating CEOs' Financial Gain

Finally, I estimate the gains to a manager from adjusting the tone of the earnings announcements prior to option grants and exercises. First, I document the average relation between optimistic tone and short-window abnormal returns. Following equation (4), I regress three-day abnormal returns against unexpected optimistic tone and a series of control variables that prior literature finds relate to returns around the earnings announcement. My findings are presented in Table 8, column (1). Consistent with prior literature, the coefficient (p-value) on *UNEXP_OPT* is 0.004 (0.001).

Table 8: Tests of the Relation between Optimistic Tone and Short-widow Abnormal Returns

		Full Sample	Low litigation	Low_DACC
		(1)	(2)	(3)
	Prediction	CAR_PR	CAR_PR	CAR_PR
UNEXP_OPT	+	0.004***	0.003***	0.006*
		(0.004)	(0.009)	(0.087)
SURP		0.146***	0.125***	0.174***
		(0.000)	(0.000)	(0.000)
BEAT		0.024***	0.023***	0.025***
		(0.000)	(0.000)	(0.000)
LOSS		-0.006**	-0.004	-0.004
		(0.008)	(0.113)	(0.479)
QTR, YEAR AND INDUSTRY		Included	Included	Included
CONSTANT		-0.001	-0.008	0.018
		(0.946)	(0.646)	(0.409)
OBSERVATIONS		17,211	12,091	2,692
ADJUSTED R^2		0.067	0.078	0.072

Robust p-values in parentheses, based on Huber-White adjusted standard errors. *, **, *** indicate significance at 10%, 5% and 1% levels based on two-tailed tests. For complete variable definitions see Appendix B.

Table 8, column (2) repeats the test presented in column (1) but limits the sample to *LOW_LITIGATION* firms. I impose this limitation because the *LOW_LITIGATION* sample provides evidence of increased optimistic tone prior to option exercises. The results are similar to the full sample, with a coefficient (p-value) on *UNEXP_OPT* of 0.003 (0.001). This evidence suggests a change in optimistic tone is a mechanism by which managers could influence short-run returns and increase compensation.

A coefficient on *UNEXP_OPT* of 0.003 implies that a one-unit change in *UNEXP_OPT* corresponds to a 30 basis point increase in the three-day abnormal return around the earnings announcement. The standard deviation of *UNEXP_OPT* is 0.443, so a standard deviation change in *UNEXP_OPT* implies a 13 basis point increase in the abnormal return. While not large in absolute value, this is relatively large compared to the mean (median) abnormal return around the press release of 50 (20) basis points. For the firm-quarters in which options are exercised, the mean value of the exercise is $5.07 million. A 13 basis point change in the stock price implies a mean gain at the time of the option exercise of about $6,600.

I perform a similar analysis for *LOW_DACC* firms since the evidence in Table 7 indicates managers decrease optimistic tone prior to option grants when they also record low discretionary accruals. The regression results, presented in column (3), show a coefficient (p-value) on *UNEXP_OPT* of 0.006 (0.077). A one standard deviation change in *UNEXP_OPT* implies a 27 basis point increase in the abnormal return. For the firm-quarters in which option grants are made, the mean value of the grant is $3.59

million. A 27 basis point change in the stock price implies an increase in grant value of about $9,700.

Overall, I interpret my results to indicate that, on average, managers do not alter the tone of their earnings announcements prior to stock option grants or exercises. However, in predictable subsets of my sample managers do appear to use tone opportunistically. Specifically, managers increase the optimistic tone in the earnings announcement prior to option exercises, conditional upon litigation risk being low. In addition, managers tend to reduce optimistic tone prior to option grants in conjunction with downward earnings management. The average increase in compensation related to these strategies is small compared to the total value of CEOs' compensation packages.

The Impact of the Sarbanes-Oxley Act of 2002

The Sarbanes-Oxley Act of 2002 made several significant changes to the governance and reporting requirements of publicly traded firms. I conduct an exploratory analysis to determine if SOX-mandated changes to financial reporting impact the use of tone around stock option transaction. Heron and Lie (2007) find SOX significantly reduced the frequency of stock option backdating by requiring firms to report stock option grants to the SEC within two days of the grant date. If, prior to SOX, some of the scheduled grants were backdated, there would be noise in my tests because a press release written prior to the "grant date" of a backdated grant would be written without the expectation a grant was forthcoming. In addition, Baker et al. (2008) argue that since SOX substantially increased the cost of backdating, it encouraged alternate methods of increasing option compensation. Thus the elimination of option backdating

could result in more managers using optimistic tone to increase the payoff from their stock options. Given the potential reduction in noise and the decreased relative cost of altering optimistic tone after SOX, I expect tests of hypotheses H1a and H1b to result in larger coefficients after SOX than before SOX.

SOX also increased the overall scrutiny placed on financial reporting. For example, Section 302 requires CEOs and CFOs to certify financial statement accuracy. This potentially creates an environment in which managers revise their expected litigation risk upward. Thus, after SOX, even firms facing relatively low litigation risk might experience an increased absolute level of litigation risk, thereby reducing the likelihood of altering optimistic tone. However, given the increased scrutiny of financial reporting, I expect stronger support for H2 after SOX since managers of low litigation risk firms view altering tone as a less risky method to influence stock price.

The Sarbanes-Oxley Act has a less clear implication for the relation between tone and option transactions in the presence of earnings management. The results of Baker et al. (2008) suggest managers are more likely to manage earnings and alter tone after SOX than before SOX. However, the increased scrutiny of financial reporting after SOX suggests the absolute costs of earnings management and altering tone increase after SOX, thereby reducing these activities. Thus I make no prediction for the relative strength of hypotheses H3a and H3b before SOX versus after SOX.

The results of the tests of H1a and H1b for periods before and after the passage of SOX are presented in Table 9 below.

Table 9: Optimistic Tone and Stock Option Transactions: The Impact of SOX

		Pre-SOX	Pre-SOX	Post-SOX	Post-SOX
		(1)	(2)	(3)	(4)
	Predict	OPTIMISM_PR	OPTIMISM_PR	OPTIMISM_PR	OPTIMISM_PR
GRANT (SCHED-T)	-	-0.017		0.018	
		(0.484)		(0.304)	
GRANT (SCHED-R)	-		-0.041		-0.013
			(0.195)		(0.682)
EXERCISE	+	0.023	0.022	0.001	0.000
		(0.615)	(0.625)	(0.913)	(0.994)
FUT_ROA		0.942**	0.954**	0.942***	0.943***
		(0.033)	(0.031)	(0.002)	(0.002)
LAG_OPTIMSIM		0.650***	0.650***	0.710***	0.710***
		(0.000)	(0.000)	(0.000)	(0.000)
LOGWC		0.050***	0.050***	0.037***	0.038***
		(0.007)	(0.007)	(0.000)	(0.000)
PCT_JMOB		0.038	0.039	0.035***	0.035***
		(0.108)	(0.103)	(0.008)	(0.007)
SD_ROA		0.969*	0.964*	-0.911***	-0.914***
		(0.085)	(0.087)	(0.002)	(0.002)
ROA		0.725	0.720	0.038	0.035
		(0.156)	(0.159)	(0.907)	(0.914)
LOSS		-0.047*	-0.048*	-0.050***	-0.050***
		(0.086)	(0.085)	(0.002)	(0.002)
BEAT		0.051***	0.051***	0.031***	0.032***
		(0.009)	(0.009)	(0.006)	(0.006)
SURP		0.424***	0.426***	0.192***	0.191***
		(0.000)	(0.000)	(0.002)	(0.002)
SI_DUM		-0.008	-0.009	-0.030***	-0.030***
		(0.732)	(0.725)	(0.001)	(0.001)
ABS_ACCR		-0.332*	-0.335*	-0.028	-0.026
		(0.053)	(0.051)	(0.791)	(0.806)
LOGREV		0.005	0.005	0.007*	0.008**
		(0.496)	(0.473)	(0.052)	(0.046)
DA		0.092**	0.091**	0.099***	0.099***
		(0.048)	(0.050)	(0.001)	(0.001)
MB		-0.001	-0.001	0.001	0.001
		(0.798)	(0.806)	(0.623)	(0.616)
QTR/YR/IND		Included	Included	Included	Included
CONSTANT		-0.298	-0.298	-0.286***	-0.286***
		(0.106)	(0.106)	(0.002)	(0.002)
OBS		4,971	4,971	12,240	12,240
ADJ R^2		0.535	0.535	0.591	0.591

Robust p-values in parentheses, based on Huber-White adjusted standard errors. *. **. *** indicate significance at 10%, 5% and 1% levels based on two-tailed tests. For complete definitions see Appendix B.

The results in Table 9 are qualitatively similar to those presented in Table 5 for the entire sample period. I do not find evidence of option grants or exercises being associated with optimistic tone in the press release.

Next, I examine if the results for *LOW_LITIGATION* and *HIGH_LITIGATION* firms vary before and after Sarbanes-Oxley. Table 10, Panel A presents the results for *LOW_LITIGATION* firms before and after SOX. Prior to Sarbanes-Oxley, none of the coefficients on *GRANT* or *EXERCISE* are significant at conventional levels. However, after Sarbanes-Oxley the coefficient (p-value) on *EXERCISE* is 0.027 (0.058) in the traditional scheduled grant specification and 0.026 (0.074) in the restricted scheduled grant specification. These results are very similar to those presented in Table 6 for the entire sample period, which suggests the prior findings are restricted to the post-SOX time period. Specifically, it implies that managers increase optimistic tone prior to option exercises after SOX, but not before SOX. This evidence is consistent with the argument of Baker et al. (2008) that SOX reduced backdating and thus made other forms of opportunism relatively less costly. However, an alternative explanation is that my variables are measured with less noise after SOX.[19]

Panel B of Table 10 presents the results for *HIGH_LITIGATION* firms. For both definitions, the coefficient on *GRANT* is insignificant both before and after Sarbanes-Oxley. The coefficient on *EXERCISE* is similar across both specifications. I discuss the results from the specification that includes the traditional definition of scheduled grants.

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[19] For example, it is possible that my definition of low and high litigation firms is more accurate after SOX than before SOX. In addition, the coefficients prior to SOX are almost four times larger than those after SOX. Given the sample size is several times larger after SOX, the lack statistical significance prior to SOX could be due to a lack of statistical power.

Prior to SOX, the coefficient (p-value) on *EXERCISE* is -0.021 (0.728), while after SOX the coefficient (p-value) on *EXERCISE* is -0.048 (0.021). This evidence suggests that while managers of *HIGH_LITIGATION* firms did not alter their tone before stock option exercises prior to the passage of SOX, they reduced their optimistic tone prior to stock option exercises after the passage of SOX. This is consistent with SOX leading to an increase in the scrutiny of financial disclosures, particularly for firms with high litigation risk. Overall, the results from Table 10 are consistent with my expectation that the impact of litigation risk is more prevalent after Sarbanes-Oxley was passed.

Next, I investigate if the complementary relation between lowering discretionary accruals and reducing optimistic tone varies before and after Sarbanes-Oxley. The results are presented in Table 11. I find evidence of a complementary strategy of downward earnings management and reducing optimistic tone before option grants prior to Sarbanes-Oxley. An F-test of the sum of *GRANT(LOW_DACC)* and *GRANT* is negative and significant before SOX but not after SOX. Specifically, prior to SOX the sum of the coefficients (p-value from F-test) on *GRANT(LOW_DACC)* and *GRANT* is -0.088 (0.138) using the traditional definition of scheduled grants and -0.172 (0.016) using the restricted definition of scheduled grants. After SOX these coefficients (p-value from F-test) are 0.080 (0.163) and -0.016 (0.822). This evidence provides support of H3a, but only prior to SOX.

Table 10: Optimistic Tone and Stock Option Transactions: SOX and Litigation Risk

Panel A: *LOW_LITIGATION*		Pre-SOX	Pre-SOX	Post-SOX	Post-SOX
		(1)	(2)	(3)	(4)
	Predict	OPTIMISM_PR	OPTIMISM_PR	OPTIMISM_PR	OPTIMISM_PR
GRANT (SCHED-T)	-	-0.022		0.025	
		(0.458)		(0.242)	
GRANT (SCHED-R)	-		-0.057		-0.011
			(0.114)		(0.768)
EXERCISE	+	0.098	0.097	0.027*	0.026*
		(0.162)	(0.168)	(0.058)	(0.074)
FUT_ROA		1.118	1.130	0.963**	0.966**
		(0.138)	(0.133)	(0.025)	(0.025)
LAG_OPTIMSIM		0.639***	0.639***	0.707***	0.708***
		(0.000)	(0.000)	(0.000)	(0.000)
LOGWC		0.048**	0.049**	0.056***	0.056***
		(0.030)	(0.030)	(0.000)	(0.000)
PCT_JMOB		0.054*	0.055*	0.054***	0.055***
		(0.056)	(0.052)	(0.001)	(0.001)
SD_ROA		2.197***	2.192***	-0.523	-0.528
		(0.006)	(0.006)	(0.261)	(0.257)
ROA		0.540	0.546	-0.528	-0.528
		(0.474)	(0.468)	(0.229)	(0.229)
LOSS		-0.054	-0.054	-0.084***	-0.084***
		(0.117)	(0.116)	(0.000)	(0.000)
BEAT		0.049**	0.049**	0.027*	0.027**
		(0.034)	(0.035)	(0.050)	(0.049)
SURP		0.452***	0.454***	0.184***	0.183***
		(0.001)	(0.001)	(0.005)	(0.006)
SI_DUM		-0.018	-0.017	-0.033***	-0.033***
		(0.561)	(0.563)	(0.004)	(0.003)
ABS_ACCR		-0.446**	-0.451**	-0.073	-0.070
		(0.048)	(0.045)	(0.606)	(0.620)
LOGREV		0.004	0.004	0.011**	0.011**
		(0.640)	(0.593)	(0.025)	(0.021)
DA		0.025	0.023	-0.005	-0.005
		(0.692)	(0.713)	(0.906)	(0.907)
MB		0.008**	0.008**	0.004	0.005
		(0.038)	(0.037)	(0.116)	(0.114)
QTR/YR/IND		Included	Included	Included	Included
CONSTANT		-0.403*	-0.404*	-0.379***	-0.378***
		(0.055)	(0.054)	(0.000)	(0.000)
OBS		3,417	3,417	8,674	8,674
ADJ R^2		0.531	0.531	0.597	0.597

Robust p-values in parentheses, based on Huber-White adjusted standard errors. *, **, *** indicate significance at 10%, 5% and 1% levels based on two-tailed tests. For complete definitions see Appendix B.

Table 10 (continued)

Panel B: *HIGH_LITIGATION*		Pre-SOX	Pre-SOX	Post-SOX	Post-SOX
		(1)	(2)	(3)	(4)
	Predict	OPTIMISM_PR	OPTIMISM_PR	OPTIMISM_PR	OPTIMISM_PR
GRANT (SCHED-T)	-	0.011 (0.803)		0.003 (0.915)	
GRANT (SCHED-R)	-		0.026 (0.668)		-0.010 (0.866)
EXERCISE	+	-0.021 (0.728)	-0.021 (0.731)	-0.048** (0.021)	-0.048** (0.019)
FUT_ROA		0.624 (0.277)	0.615 (0.284)	0.866** (0.042)	0.865** (0.042)
LAG_OPTIMSIM		0.657*** (0.000)	0.657*** (0.000)	0.696*** (0.000)	0.696*** (0.000)
LOGWC		0.079** (0.029)	0.079** (0.029)	-0.005 (0.802)	-0.005 (0.807)
PCT_JMOB		0.016 (0.731)	0.015 (0.736)	0.010 (0.663)	0.010 (0.661)
SD_ROA		0.023 (0.977)	0.028 (0.972)	-1.324*** (0.000)	-1.324*** (0.000)
ROA		0.675 (0.338)	0.683 (0.331)	0.963** (0.047)	0.960** (0.047)
LOSS		-0.061 (0.203)	-0.061 (0.205)	0.014 (0.615)	0.014 (0.620)
BEAT		0.063* (0.092)	0.063* (0.091)	0.051** (0.019)	0.051** (0.019)
SURP		0.299 (0.212)	0.299 (0.212)	0.239 (0.153)	0.238 (0.153)
SI_DUM		-0.002 (0.953)	-0.002 (0.962)	-0.026* (0.096)	-0.026* (0.096)
ABS_ACCR		-0.155 (0.564)	-0.153 (0.568)	0.112 (0.502)	0.112 (0.500)
LOGREV		0.005 (0.691)	0.005 (0.693)	0.007 (0.264)	0.007 (0.260)
DA		0.103 (0.229)	0.103 (0.228)	0.231*** (0.000)	0.231*** (0.000)
MB		-0.005* (0.084)	-0.005* (0.083)	-0.003 (0.360)	-0.003 (0.359)
QTR/YR/IND		Included	Included	Included	Included
CONSTANT		-0.178 (0.502)	-0.172 (0.515)	-0.173 (0.513)	0.164 (0.351)
OBS		1,554	1,554	1,554	3,566
ADJ R^2		0.547	0.548	0.548	0.564

Robust p-values in parentheses, based on Huber-White adjusted standard errors. *, **, *** indicate significance at 10%, 5% and 1% levels based on two-tailed tests. For complete definitions see Appendix B.

Table 11: Optimistic Tone and Stock Option Transactions: SOX and Discretionary Accruals

Discretionary accruals		Pre-SOX	Pre-SOX	Post-SOX	Post-SOX
		(1)	(2)	(3)	(4)
	Predict	OPTIMISM_PR	OPTIMISM_PR	OPTIMISM_PR	OPTIMISM_PR
GRANT		-0.085		0.071	
(LOW_DACC)T		(0.190)		(0.235)	
GRANT		-0.003		0.009	
(SCHED_T)		(0.899)		(0.627)	
GRANT			-0.153*		-0.003
(LOW_DACC)R			(0.052)		(0.973)
GRANT			-0.019		-0.013
(SCHED_R)			(0.580)		(0.690)
EXER		-0.224**	-0.224*	-0.009	-0.008
(HIGH_DACC)		(0.050)	(0.050)	(0.793)	(0.814)
EXERCISE		0.079	0.078	0.003	0.001
		(0.102)	(0.105)	(0.826)	(0.905)
LOW_DACC		0.025	0.025	0.006	0.009
		(0.212)	(0.211)	(0.633)	(0.463)
HIGH_DACC		-0.004	-0.004	-0.023*	-0.023*
		(0.857)	(0.844)	(0.068)	(0.063)
FUT_ROA		0.906**	0.919**	0.926***	0.930***
		(0.040)	(0.037)	(0.002)	(0.002)
CONTROLS		Included	Included	Included	Included
QTR/YR/IND		Included	Included	Included	Included
CONSTANT		-0.308*	-0.309*	-0.286***	-0.283***
		(0.094)	(0.092)	(0.002)	(0.002)
OBSERVATIONS		4,971	4,971	12,240	12,240
ADJUSTED R^2		0.535	0.536	0.591	0.591
F-TESTS					
Sum of coefficients					
GRANT	-	-0.088	-0.172	0.080	-0.016
		(0.138)	(0.016)*	(0.163)	(0.822)
EXERCISE	+	0.145	0.146	-.006	-.007
		(0.165)	(0.163)	(0.847)	(0.838)

Robust p-values in parentheses, based on Huber-White adjusted standard errors. *, **, *** indicate significance at 10%, 5% and 1% levels based on two-tailed tests. For complete definitions see Appendix B. Additional control variables are included in the estimation but omitted from the table for the sake of brevity.

The results for exercises do not support H3b before or after SOX. Prior to SOX, the coefficient (p-value) of *EXERCISE(HIGH_DACC)* is -0.224 (0.050) and the coefficient (p-value) on *EXERICSE* is 0.079 (0.102). The sum of the coefficients (p-value from F-test) on *EXERCISE(HIGH_DACC)* and *EXERICSE* is -0.145 (0.165).

After SOX, neither of the individual coefficients nor the sum of the exercise coefficients is significant.

I interpret the results to this point as follows. Evidence from Table 5 and Table 9 does not support H1a or H1b. I do not find support for the hypotheses that managers, on average, alter optimistic tone prior to option grants and exercises. Once I partition the firms based on shareholder litigation risk, I find managers of low litigation risk firms increase optimistic tone prior to option exercises while managers of high litigation risk firm decrease optimistic tone prior to option exercises. This evidence supports H2 and provides an explanation for the lack of support of H1b. Specifically, the negative coefficient on *EXERCISE* for low litigation risk firms and positive coefficient on *EXERCISE* for high litigation risk firms sum to an insignificant coefficient on average.

The results in Table 10 suggest these findings are concentrated in the post-SOX time period. One interpretation of this evidence is that SOX increased litigation risk, especially for firms already facing high litigation risk. Thus prior to option exercises, managers of low litigation risk firms increased optimistic tone opportunistically, while managers of high litigation risk firms decreased optimistic tone excessively.

The results in Table 7 and Table 11 do not support H3b. However, I find some support of H3a, and the support is strongest prior to Sarbanes-Oxley. Executives who managed earnings downward prior to option grants also use less optimistic tone in the earnings press release in the pre-SOX time period. Baker et al. (2008) and McAnally et al. (2008) examine downward earnings management prior to option grants, but do not distinguish between the before-SOX and after-SOX time periods. In my sample there

are 79 scheduled grants after downward earnings management after SOX (0.65% of observations) and 63 scheduled grants after downward earnings management before SOX (1.27% of observations). It is possible that the complementary relation between downward earnings management and reduced optimistic tone disappears after SOX because managers do not reduce reported earnings prior to grants as frequently.

These results suggest that SOX had a different impact on different types of firms. Mangers facing lower litigation risk increased optimistic tone to increase the payoff from their option exercises, perhaps because altering tone became a less costly way to increase option compensation. In contrast, firms that managed earnings downward and were overly pessimistic prior to SOX reverted to more credible use of optimistic tone.

Sensitivity Tests

I investigate two alternate and potentially more powerful settings in which to test H1a and H1b. First, I examine differences in the magnitude of option grants and exercises. Managers are more likely to alter tone when the financial benefits of doing so are greatest. For a given change in stock price, managers' financial gain increases with the number of options granted or exercised. Therefore, managers are more likely to attempt to influence stock price through changes in optimistic tone when the option grants or option exercises are large.

Intuitively "large" is relative to the manager's wealth, i.e., a manager will have higher incentives to alter tone if a grant or exercise represents a larger portion of their wealth. Because I do not have data on CEOs' total wealth, I compute the size of a grant or exercise as the dollar value of a grant or exercise scaled by the dollar value of the

CEO's wealth in the firm. A manager's wealth in the firm is measured as the sum of stock ownership, restricted stock, exercisable options, un-exercisable options, and total current year compensation (option grants, salary and bonus for the fiscal year ending on or before quarter (t)). I define an observation in the upper quartile of scaled grants (scaled exercises) as a *BIG_GRANT* (*BIG_EXERCISE*).

These definitions capture a potentially more powerful setting because the payoff to changing tone is greater. However, these definitions reduce the number of *GRANT* and *EXERCISE* observations, which reduce the power of my tests. I re-estimate equation (1) substituting *BIG_GRANT* and *BIG_EXERCISE* in place of *GRANT* and *EXERCISE*. H1a and H1b predict the coefficient on *BIG_GRANT* is negative and the coefficient on *BIG_EXERCISE* is positive.

Table 12, Panel A presents the results of this estimation. I find the coefficient (p-value) on *BIG_GRANT* is 0.029 (0.383) for the traditional definition of scheduled grants and -0.029 (0.596) for the restrictive definition of scheduled grant. This evidence does not support the prediction in H1a that managers reduce optimistic tone prior to option grants, even when the potential financial rewards are greatest. In the two specifications the coefficients (p-value) on *BIG_EXERCISE* are -0.014 (0.535) and -0.014 (0.530), respectively. This evidence does not support the prediction in H1b that managers increase optimistic tone prior to option exercises, even when the potential financial rewards are greatest. Instead, the evidence suggests that large grants and exercises do not induce managers to alter their use of optimistic tone.

Next I investigate the timing of option grants and exercises. Initially, I limit my sample to grants or exercises that occur between the press release for quarter (t) and the end of quarter (t+1). However, if managers are using optimistic tone to influence stock prices they are most likely to benefit when option transactions occur soon after the press release. The price reaction to opportunistic or inaccurate narrative tone will reverse when true firm performance is revealed. Thus the longer the time until an option transaction, the more likely it is that any temporary mis-pricing (due to narrative tone) will disappear before the manager is granted or exercises options. As a result, I expect that when grant and exercise transactions occur soon after (within 30 days of) the press release, managers are more likely to have altered tone, and thus I am more likely to find the relations predicted by H1a and H1b.

The results for option grants and exercises that occur within 30 days of the earnings press release are presented in Table 12, Panel B. H1a and H1b predict a negative coefficient on *GRANT* and a positive coefficient on *EXERCISE*. However, I find the coefficients (p-values) on the traditional and restrictive definitions of *GRANT* are 0.003 (0.895) and -0.036 (0.261). This evidence is consistent with the main findings and does not support the prediction in H1a that managers reduce optimistic tone prior to option grants. In both specifications the coefficient on *EXERCISE* is -0.003 (with p-values of 0.853 and 0.833). This evidence is consistent with the main findings and does not support the prediction in H1b that managers increase optimistic tone prior to option exercises. Thus it appears grants and exercises that occur soon after the press release do not induce managers to alter optimistic tone.

Table 12: Optimistic Tone and Stock Option Transactions: Sensitivity Tests

Panel A: Large grants and exercises

		(1)	(2)
	Prediction	OPTIMISM_PR	OPTIMISM_PR
BIG_GRANT (SCHED-T)	-	0.029 (0.383)	
BIG_GRANT (SCHED-R)	-		-0.029 (0.596)
BIG_EXERCISE	+	-0.014 (0.535)	-0.014 (0.530)
FUT_ROA		0.962*** (0.000)	0.965*** (0.000)
LAG_OPTIMSIM		0.699*** (0.000)	0.699*** (0.000)
LOGWC		0.038*** (0.000)	0.038*** (0.000)
PCT_JMOB		0.036*** (0.002)	0.036*** (0.002)
SD_ROA		-0.321 (0.223)	-0.314 (0.233)
ROA		0.242 (0.376)	0.232 (0.395)
LOSS		-0.048*** (0.001)	-0.048*** (0.001)
BEAT		0.038*** (0.000)	0.038*** (0.000)
SURP		0.240*** (0.000)	0.238*** (0.000)
SI_DUM		-0.024*** (0.004)	-0.024*** (0.004)
ABS_ACCR		-0.151* (0.097)	-0.150 (0.101)
LOGREV		0.006* (0.091)	0.006* (0.085)
DA		0.089*** (0.000)	0.089*** (0.000)
MB		0.001 (0.539)	0.001 (0.544)
QTR/YR/IND		Included	Included
CONSTANT		-0.196** (0.019)	-0.194** (0.020)
OBSERVATIONS		17,211	17,211
ADJUSTED R^2		0.577	0.577

Robust p-values in parentheses, based on Huber-White adjusted standard errors. *, **, *** indicate significance at 10%, 5% and 1% levels based on two-tailed tests. For complete definitions see Appendix B.

Table 12 (continued)

Panel B: Grants and exercises within 30 days of the earnings press release

		(1)	(2)
	Prediction	OPTIMISM_PR	OPTIMISM_PR
GRANT (SCHED-T)	-	0.003	
		(0.895)	
GRANT (SCHED-R)	-		-0.036
			(0.261)
EXERCISE	+	-0.003	-0.003
		(0.853)	(0.833)
FUT_ROA		0.960***	0.965***
		(0.000)	(0.000)
LAG_OPTIMSIM		0.699***	0.699***
		(0.000)	(0.000)
LOGWC		0.038***	0.039***
		(0.000)	(0.000)
PCT_JMOB		0.036***	0.036***
		(0.002)	(0.002)
SD_ROA		-0.317	-0.321
		(0.229)	(0.223)
ROA		0.235	0.229
		(0.389)	(0.400)
LOSS		-0.048***	-0.048***
		(0.001)	(0.000)
BEAT		0.038***	0.038***
		(0.000)	(0.000)
SURP		0.239***	0.239***
		(0.000)	(0.000)
SI_DUM		-0.024***	-0.024***
		(0.005)	(0.004)
ABS_ACCR		-0.150*	-0.150*
		(0.099)	(0.099)
LOGREV		0.006*	0.006*
		(0.086)	(0.083)
DA		0.089***	0.090***
		(0.000)	(0.000)
MB		0.001	0.001
		(0.549)	(0.546)
QTR/YR/IND		Included	Included
CONSTANT		-0.195**	-0.196**
		(0.019)	(0.019)
OBSERVATIONS		17,211	17,211
ADJUSTED R^2		0.577	0.577

Robust p-values in parentheses. based on Huber-White adjusted standard errors. *, **, *** indicate significance at 10%, 5% and 1% levels based on two-tailed tests. For complete definitions see Appendix B.

CHAPTER VI

ROBUSTNESS CHECKS

I conduct a series of robustness tests to ensure my results are not driven by variable measurement or research design choices. Specifically, I investigate unscheduled option grants, altering the control group, differences across fiscal quarters, the importance of CEO tenure, and an alternate method of computing unexpected optimistic tone for the market reaction tests.

In the first robustness test I repeat my analysis using unscheduled grants (as opposed to scheduled grants) and using all grants (scheduled and unscheduled). As previously noted, I use scheduled grants in my main tests because managers are more likely to know of scheduled grants in advance, and therefore adjust disclosure tone prior to these grants. Using either unscheduled grants or all grants, the results for the tests of H1a and H1b are similar to those presented in Table 5. I do not find evidence to support these hypotheses. Similarly, I do not find support for H2 using either unscheduled grants or all grants. These results are in contrast to the evidence in support of H2 presented in Table 6 and Table 9. Finally, these definitions of grants do not lend support to H3a and H3b. The results of these tests are consistent with arguments made in prior literature that managers are more likely to have prior knowledge of scheduled grants.

The second robustness test involves altering the control group. In the primary specification there are firms in the control group for which the CEO neither receives an

option grant nor exercises options for the entire sample period. If these firms use language in a systematically different manner than firms for which the CEO either receives or exercises options then these "non-option" firms do not belong in the control group. Therefore I limit the control group to the firm-quarters in which the CEO did not receive or exercise options, but only include firms for which the CEO received or exercised options at some point during the sample period. I repeat my tests using this limited control group. The results, which I do not tabulate, are qualitatively similar to those reported in Table 5 through Table 7.[20]

The third robustness check investigates potential differences across firm-quarters. The distribution of grants and exercises is not uniform across fiscal quarters. Approximately 43% of scheduled grants occur after the fourth quarter press release (i.e., the grant award is made in the first quarter) while only about 10% occur after the second quarter press release. For exercises, 31% occur after the third quarter press release (i.e., during the fourth quarter) while only 19% occur after the fourth quarter press release. When I repeat my primary tests by fiscal quarter, the results (un-tabulated) are qualitatively similar to those presented in Table 5. I do not find support for H1a or H1b in any individual quarter.

In the fourth robustness test I investigate if my results are sensitive to a particular attribute of the CEO, their tenure. It is possible that CEOs' concerns about their credibility and market reputation decrease as they approach the end of their career, and thus are more likely to be opportunistic in their narrative disclosure. I partition the

[20] These results are unsurprising given this sample includes approximately 89% of the total number of observations.

sample into above and below median tenure, and then into the upper quartile and lower three quartiles of tenure. The results for all sub-samples are qualitatively consistent with the results presents in Table 5. I do not find support for H1a or H1b for CEOs with longer tenure.

In the fifth robustness test I assess the importance of the size of option transactions using a firm fixed-effects model. I use the dollar value of the grant or exercise in place of *GRANT* and *EXERCISE*. This research design has the advantage of capturing unobservable firm-specific characteristics that might influence the use of optimistic tone. The results, which are not tabulated, are similar to those presented in Table 5.

Finally, to further ensure the results in my returns regressions are not driven by a potentially mis-specified expectations model, I examine a different measure of unexpected optimistic tone, *UNEXP_OPT2*. *UNEXP_OPT2* is a simple first difference of optimistic tone (*OPTIMISM_PR* less *LAG_OPTIMISM_PR*) as opposed to the residual from a regression model. The results of the short-window returns regression are quantitatively and qualitatively similar to those presented in Table 11, and inferences remain unchanged.

CHAPTER VII

CONCLUSION

In this dissertation, I investigate whether managers alter the language used in the narrative portion of their earnings press releases, i.e., the linguistic tone, to increase their payoff from stock options. An alternative explanation for the variation in the optimistic tone of earnings press releases is that managers use the flexibility in narrative disclosure to communicate expectations for future firm performance.

Using a sample of 17,211 firm-quarters from 1998-2006, I test several hypotheses regarding managers' language choices. I find limited support for my hypotheses. Specifically, I find that earnings press releases are less optimistic prior to option grants when firms also have low discretionary accruals. This suggests altering tone and downward earnings management are complementary strategies to lower stock price prior to option grants. In addition, I find evidence of increased optimistic tone in press releases prior to option exercises, except in industries where litigation risk is high. This suggests that shareholder litigation plays a role in reducing managerial opportunism. Finally, consistent with prior literature I find, on average, a positive relation between optimistic tone in the earnings announcement and future return on assets. However, I find this relation does not hold when the earnings announcement precedes an option transaction.

My study makes contributions to several streams of literature. I contribute to the voluntary disclosure literature by examining whether managers use a specific strategy in their narrative disclosures to increase their personal wealth. Next, while prior literature investigates compensation increases resulting from adjusting discretionary accruals (earnings management), I provide evidence managers alter the tone of earnings announcements, and that altering tone complements earnings management around option grants. More generally, I provide evidence how managers trade-off opportunism and credibility within disclosures. My study suggests that when managers select between opportunistically increasing stock option compensation or maintaining their reputation in capital and labor markets, they make some efforts to be opportunistic unless they are constrained by other forces (i.e., fear of litigation). This is of interest market participants and regulators who are concerned about the credibility of disclosures, particularly when managerial incentives encourage opportunism.

APPENDIX A

EXAMPLES OF WORDS USED TO COMPUTE THE OPTIMISM SCORE

OPTIMISIM_PR is computed as the percentage of words in the earnings press release included in the optimistic word categories less the percentage of words in the earnings press release included in the pessimistic word categories as defined by DICTION 5.0. [a] Below are examples of words from each category.

OPTIMISTIC WORDS

PRAISE CATEGORY contains adjectives which affirm a person, group or entity.
Sample words: *delightful, witty, mighty, handsome, beautiful, successful, reasonable, bright, vigilant, good, noble.*

SATISFACTION CATEGORY contains words associated with a positive affective state, joy, triumph, and nurturing.
Sample words: *passionate, cheerful, welcome, thanks, excited, fun, lucky, celebrating, auspicious, encourage, secure, pride.*

INSPIRATION CATEGORY contains terms related to abstract virtues.
Sample words: *faith, honesty, virtue, courage, dedication, success, education, justice, patriotism, wisdom.*

PESSIMISTIC WORDS

BLAME CATEGORY contains words designating social inappropriateness, evil, unfortunate circumstances, unplanned changes of fortune, or denigrations.
Sample words: *mean, naïve, sloppy, repugnant, malicious, bankrupt, rash, morbid, embarrassing, weary, painful, detrimental, illegitimate, offensive, miserly.*

HARDSHIP CATEGORY contains words indicating natural disasters, hostile actions, censurable behavior, unsavory political outcomes, human fears and incapacities.
Sample words: *earthquake, pollution, tornado, enemies, vices, infidelity, betrayal, injustice, slavery, exploitation, grief, unemployment, apprehension, error, weakness.*

DENIAL CATEGORY contains standard negative contractions, negative words, and terms for null sets.
Sample words: *aren't, shouldn't, don't, nor, not, nay, nothing, nobody, none.*

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[a] Word list descriptions are from DICTION 5.0 documentation (Hart 2000a).

APPENDIX B

COMPLETE VARIABLE DEFINITIONS

OPTIMISM_PR	Optimism score based on DICTION 5.0: the percentage of optimistic words less percentage of pessimistic words.
UNEXP_OPT	Unexpected optimistic tone: the residual from the optimistic tone determinants regression equation (2).
GRANT (SCHED-T)	Indicator variable equal to 1 if the CEO received a scheduled grant, defined (traditional definition) as when there was also a grant on the same month/day (plus or minus 7 days) in the prior calendar year.
GRANT (SCHED-R)	Indicator variable equal to 1 if the CEO received a scheduled grant, defined (restrictive definition) as when there was also a grant on the same month/day (plus or minus 7 days) in the prior calendar year *and* the following calendar year.
GRANT (ALL)	Indicator variable equal to 1 if the CEO received an option grant after the press release and the end of the fiscal quarter.
EXERCISE	Indicator variable equal to 1 if the CEO exercised options between the press release and the end of the fiscal quarter.
FUT_ROA	Mean of ROA for quarters (t+1) through (t+4).
LOGWC	The natural log of the number of words in the press release.
PCT_JMOB	The percentage of times in the prior 4 quarters the firm met the median analyst forecast or beat the median forecast by less than three cents (0=<(actual-medest)< .03).
SD_ROA	Standard deviation of ROA for quarters (t-1) through (t-4).
ROA	Income before extraordinary items/beginning assets (IBQ/ATQ).
LOSS	Indicator variable equal to 1 if the firm made a loss.
BEAT	Indicator variable equal to 1 if the firm beat or met the consensus analyst forecast (actual earnings less median forecast in I/B/E/S).
SURP	Actual earnings – last median forecast for the quarter from I/B/E/S scaled by beginning of period stock price (I/B/E/S actual – I/B/E/S medest)/Compustat $PRCCQ_{t-1}$.
SI_DUM	Indicator variable equal to 1 if the firm records a special item (litigation cost, goodwill impairment, restructuring, writedown, or other special item: GDWILIPQ, SETPQ, RCPQ, WDPQ,SPIOQ).
ABS_ACCR	The absolute value of accruals measured as income before extraordinary items - cash flow from operation scaled by average assets ((IBQ-OANCFY)/(($ATQ+ATQ_{t-1}$)/2)).
LOGREV	Log of sales (SALEQ).
DA	Debt to assets: liabilities/ending assets (LTQ/ATQ).
MB	Market to book value of common stock ((CEQQ*PRCCQ)/ CSHOQ) both measured at quarter end.
CAR_PR	Three day size and book to market adjusted returns centered on the date of the earnings press release.

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