DOI: 10.1111/j.1475-679X.2008.00318.x
Journal of Accounting Research
Vol. 47 No. 1 March 2009
Printed in U.S.A.

CHICAGO BOOTH

Do Managers Withhold Bad News?

S. P. KOTHARI,* SUSAN SHU,† AND PETER D. WYSOCKI*

Received 11 October 2005; accepted 16 August 2008

ABSTRACT

In this study, we examine whether managers delay disclosure of bad news relative to good news. If managers accumulate and withhold bad news up to a certain threshold, but leak and immediately reveal good news to investors, then we expect the magnitude of the negative stock price reaction to bad news disclosures to be greater than the magnitude of the positive stock price reaction to good news disclosures. We present evidence consistent with this prediction. Our analysis suggests that management, *on average*, delays the release of bad news to investors.

1. Introduction

In this study, we examine whether managers delay disclosure of bad news relative to good news. We infer the relative timeliness of bad and good news disclosures from the magnitude of stock price reactions to such disclosures. We hypothesize that a range of incentives, including career concerns, motivates managers to withhold bad news up to a certain threshold, but quickly reveal good news to investors. If this is the case, we expect the magnitude of the negative stock price reaction to bad news disclosures to be greater

*Sloan School of Management, Massachusetts Institute of Technology and Barclays Global Investors, San Francisco; †Carroll School of Management, Boston College. Comments and suggestions from Abbie Smith (editor), an anonymous referee, Paul Healy, Chandra Kanodia, Bob Kaplan, Greg Miller, L. Shivakumar, Doug Skinner, Shyam Sunder, and Joe Weber, and seminar participants at the 2006 AAA Conference, BARC Seminar, University of Connecticut, 2005 CMU Accounting Conference, University of Edinburgh, Harvard Business School, London Business School, the 2004 FEA Conference, the University of Texas–Austin Financial Reporting Conference, and Virginia Commonwealth University are gratefully acknowledged.

Copyright ©, University of Chicago on behalf of the Institute of Professional Accounting, 2008

than that of the positive stock price reaction to good news disclosures. We perform a variety of tests and present evidence consistent with managers, *on average*, delaying the release of bad news to investors.

Managers' tendency to withhold bad news can stem from a standard agency problem where managerial disclosure preferences are not aligned with those of shareholders. Managers typically possess superior private information relative to the investment community. Various incentives can motivate managers to disclose or withhold their private information (Healy and Palepu [2001], Verrecchia [2001]). Managerial commitment to quickly disclose private information, good or bad, can reduce information asymmetry and potentially lower the firm's cost of capital (Glosten and Milgrom [1985], Diamond [1985], Diamond and Verrecchia [1991], Verrecchia [2001], Healy and Palepu [2001]). However, there are also costs if the disclosures reveal proprietary information about the firm's prospects to competitors (Verrecchia [2001]).

Many factors create differential incentives to release good news versus bad news to investors. For example, litigation risk can motivate managers to quickly reveal bad news (Kasznik and Lev [1995], Skinner [1994, 1997], Baginski, Hassell, and Kimbrough [2002]). Managers may also time the release of bad and good news to increase the value of their option grants or the sale price of their stock. For example, Frankel, McNichols, and Wilson [1995] and Lang and Lundholm [2000] report that managers release good news prior to raising capital. Yermack [1997] and Aboody and Kasznik [2000] show that managers accelerate bad news and/or withhold good news in the period immediately preceding option grant dates to lower the exercise price of the options.

While managers may have incentives to disclose bad news early under certain circumstances, they also face opposing incentives to withhold bad news. First and foremost, career concerns can motivate managers to *withhold* bad news and gamble that subsequent corporate events will allow them to "bury" the bad news. Career concerns broadly encompass the effects of disclosure on management compensation contemporaneously as well as over a long horizon (Nagar [1999], Nagar, Nanda, and Wysocki [2003]). The long-horizon effects include the impact on the manager's career (e.g., promotion, employment opportunities within and outside the firm, and potential termination) and the potential loss of postretirement benefits, including directorships. In a formal model linking managers' career concerns to disclosures, Hermalin and Weisbach [2007, p. 2] assume that "owners seek to assess the CEO's ability based on the information available to them, and to replace him if the assessment is too low." They conclude that optimal disclosure is less than fully transparent, especially with respect to bad news. Verrecchia [2001] makes a similar point in his survey of the disclosure literature. In addition to the career-related costs, managers also incur costs arising from lower bonus payments, a reduction in the quantity of stock options awarded, and a loss in wealth as a result of the stock price decline following

the disclosure of bad news. Collectively, managers face strong incentives to withhold bad news and gamble that subsequent events will turn in their favor. This idea is borne out by the survey evidencein Graham, Harvey, and Rajgopal [2005]. Some CFOs claim that they delay bad news disclosures in the hope that they may never have to release the bad news if the firm's status improves before the required information release.[1]

The asymmetric disclosure behavior documented in our study, where bad news tends to be withheld and good news is disclosed early, contrasts the conservative *recognition* rules and outcomes in firms' financial reports. Recognizing managers' incentives to hide bad news, historical cost accounting has evolved to be conservative (see Watts [2003a, b]). Considerable research examines conservative *recognition* in accounting in the United States and internationally (Basu [1997], Ball, Kothari, and Robin [2000], McNichols [1988]). However, there is little systematic evidence to suggest conservatism in firms' *disclosure* practices, with the notable exception of disclosure of bad news to mitigate litigation risk.

Our tests focus on two common corporate events with important voluntary disclosure elements. We first investigate the stock market reaction to corporate announcements of dividend changes. Similar to prior research (Dielman and Oppenheimer [1984]), we find that both the magnitude of dividend changes and the associated five-day market reactions are more pronounced for dividend cuts than for dividend increases.[2] The larger magnitude of dividend cuts suggests management waits and allows bad news to accumulate before cutting dividends. Further, the fact that stock price reaction is larger for dividend cuts implies that management is successful in hiding the bad news from the market until formally communicating the information via dividend cuts.

We next investigate the stock market reaction to voluntary management earnings forecasts. Again, we find that the magnitude of the five-day market reaction to announcements of bad news earnings forecasts exceeds that of good news earnings forecasts.

We then examine the stock returns prior to the news announcements. We find that a greater fraction of the news is impounded in stock prices

[1] Recent scandals where managers explicitly withhold bad news from investors reinforce the notion that managers' private incentives can significantly influence the timing of corporate disclosures. A recent example involves managers at EADS, the parent of the Airbus jet manufacturer. Specifically, the managers of the Airbus division know about production glitches in April 2006 that would lead to the delay in the delivery of their new A380 jetliner. However, they withhold this news until June 2006, when the public announcement of the news caused EADS to lose a quarter of its value (Charlton [2006]). See Kothari, Loutskina, and Nikolaev [2006], Bergstresser and Phillipon [2006], Burns and Kedia [2006], and Cheng and Warfield [2005] for additional examples and evidence.

[2] The focus of Dielman and Oppenheimer [1984] is to test the information content of dividends hypothesis, not whether price reaction to dividend changes is asymmetric, which is the central hypothesis examined in our study.

prior to a good news disclosure relative to a bad news disclosure. This holds for both the dividend change sample and the management forecast sample. This pattern indicates that good news tends to be leaked to the market, whereas managers are successful in withholding much of the bad news from investors until it becomes inevitable that the bad news will be released.

Additional tests reveal that the asymmetric market reactions to good versus bad news vary predictably across firms with managers' incentives and ability to withhold bad news. Managers' tendency to withhold bad news is attenuated for firms with high litigation risk, but is exacerbated when managers face greater career concerns, have more personal wealth at stake, and face greater information asymmetry. The asymmetric market reaction to good versus bad news also changes in the post–Regulation Fair Disclosure (Reg FD) period. The evidence is consistent with Reg FD leveling the playing field with respect to good and bad news disclosures to some extent. However, even after controlling for the various effects of managerial disclosure incentives, we find that managers exhibit an average tendency to delay bad news.

The asymmetric market reaction to positive versus negative management forecasts is not entirely new to the literature (Skinner [1994], Soffer, Thiagarajan, and Walther [2000], Hutton, Miller, and Skinner [2003], Anilowski, Feng, and Skinner [2007]). However, these studies generally interpret the evidence as managers accelerating bad news disclosures, or market participants interpreting bad news disclosures as more credible. Our study provides broader evidence of a general asymmetry in the market's reaction to managements' disclosure of good and bad news. More importantly, we provide a new and compelling interpretation of both prior empirical findings and our new evidence to suggest that managers systematically delay disclosing bad news to investors.[3]

We examine security price behavior surrounding *discretionary* corporate information releases to examine the *timing* of these releases and to infer whether managers delay the release of bad news. *Mandatory* reporting events such as earnings announcements may provide another possible setting to examine managers' withholding activities. For example, one can examine how frequently negative earnings news is preempted prior to an earnings announcement relative to positive earnings news. However, while such tests are interesting, they do not completely inform us about managers' *general* tendency to accumulate and withhold bad news relative to good news. Rather, they inform us whether, conditional on the existence of and the impending

[3] Although without studying security price reaction to disclosures, Miller (2002, p. 201) provides small-sample evidence based on 80 firms' voluntary disclosures, and shows that managers delay the disclosure of bad news and accelerate the disclosure of good news. Specifically, he concludes that there is a positive "strong relation between earnings performance and disclosures" and offers evidence of "managers strategically choosing disclosure to focus on current positive news while avoiding a discussion of impending downturns in performance."

mandatory reporting of (bad) earnings news, managers disclose a portion of it early. This is the research design employed by Skinner [1994], who shows that bad earnings news is more likely preempted due to litigation concerns. However, he does not address how *those firms got to the stage of a large negative earnings surprise with relatively little leakage of this information*. In his setting, the choice facing managers is whether to continue withholding the bad news until the earnings announcement or disclose the information to reduce the likelihood of a lawsuit.[4] Managers do not face a similar dilemma with respect to good news presumably because good news is leaked to the market earlier.[5] In contrast to the Skinner [1994] setting, our study of stock price reactions to discretionary disclosure events offers an *unconditional* test of whether managers withhold bad news, which is a distinct and important incremental contribution of our paper.[6]

We explore various competing explanations for the larger stock market reactions to bad news versus good news disclosures. First, managers may disclose bad news promptly, but release good news gradually. Second, market participants may find bad news to be more credible than good news. Third, the asymmetric price reaction might be due to differential information in current dividend changes about future dividend changes or earnings performance. Finally, the differential price reactions might be consistent with the "torpedo effect" in the context of growth firms failing to meet analyst expectations. We discuss each of the competing explanations and, wherever possible, supplement the discussion with empirical tests. We show that the totality of our results provides support for the withholding story, and is less consistent with the competing explanations.

The remainder of the paper is organized as follows. Section 2 develops our main hypotheses. Section 3 describes the sample and provides descriptive statistics. Section 4 outlines the empirical proxies. Section 5 presents the empirical results. Section 6 investigates various competing explanations for the asymmetric price reaction to good and bad news disclosures. Section 7 concludes.

2. *Hypothesis Development*

In this section we develop the paper's main hypothesis regarding the market reaction to good versus bad news announcements. We also develop

[4] It is also worth noting that the stock price evidence in Skinner [1994, table 5] is actually consistent with managers withholding bad news: The magnitude of the price reaction to negative earnings forecasts is greater than that to positive earnings forecasts.

[5] Sletten's [2007] management forecast evidence supports this argument. She finds that a firm is more likely to quickly disclose good news compared to bad news when another firm in the same industry faces an adverse shock.

[6] Consistent with this point, Kasznik and Lev [1995] show that the magnitude of earnings surprises (upon earnings announcements) is greater for firms issuing negative earnings forecasts than for those issuing good news forecasts.

hypotheses about the cross-sectional variations in the asymmetric market reaction as a function of managers' incentives and opportunities to withhold information from outside investors.

2.1 IMPLICATION OF WITHHOLDING OF BAD NEWS

Assume that new information, good or bad, arrives randomly, and that the arrival process is not systematically different across good and bad news. It seems reasonable to expect that randomly arriving good and bad news has symmetric distributional properties.[7] If managers quickly disclose all information, its dissemination should also generate symmetrically distributed stock returns, that is, the average magnitude of positive returns to good news should be equal to that of negative returns to bad news.

If, however, managers act strategically and accumulate and withhold bad news up to a threshold level, then the market reactions to good and bad news announcements are unlikely to be symmetric. The threshold exists because there is a certain point at which it becomes too costly or difficult for managers to withhold the bad news. Managers hope to "bury" the bad news with good news that might arrive while the accumulated bad news has not yet reached the threshold level. In contrast to withholding bad news, managers have incentives to informally disclose or leak good news prior to the public disclosure of the news.[8] As a result of managers' asymmetric disclosure behavior, price reactions to public news releases are also expected to be asymmetric. Specifically, because bad news is withheld and accumulated by managers and good news is frequently leaked to the market, the market reaction to public announcements of bad news is expected to be larger than the market reaction to public announcements of good news.[9]

This leads to our first hypothesis:

H1: Both the amount of news and the stock market reactions are larger for voluntary disclosures of bad news compared to voluntary disclosures of good news.

2.2 EFFECT OF INCENTIVES ON MANAGERS' DISCLOSURE BEHAVIOR

For managers to engage in a disclosure policy that deviates from a policy of disclosing *all* news as it arrives, they must have the opportunity and

---

[7] For example, the arrival of bad news is no more "lumpy" than that of good news.

[8] Making an early public disclosure of good news can be risky if the news does not materialize and can expose the firm to greater litigation risk. Therefore, private channels provide a safer alternative in these cases. In addition, especially prior to Regulation FD, managers can selectively use private channels to curry favors with analysts and institutional investors. On the other hand, the costs of private disclosure (including direct penalties after Regulation FD) mean that not all of the good news is leaked. Therefore, partial or selective leakage of good news does not entirely eliminate the need for the eventual public disclosure of the news.

[9] Alternatively, one can compare the frequencies of *public* disclosures of good news and bad news. However, public disclosures do not capture other disclosure channels including the informal leaking of good news information to investors. Managers may prefer private channels to communicate good news in certain cases (see footnote 8).

incentive to deviate. Managers face many incentives that affect their desire to withhold or accelerate the release of good and bad news. First, litigation risk and reputation concerns can motivate managers to quickly reveal bad news (Skinner [1994, 1997], Francis, Philbrick, and Schipper [1994], Kasznik and Lev [1995]).

Second, managers' career concerns can affect their decisions to withhold their private information. Verrecchia [2001, p. 142] concludes "information may be (rationally) withheld because it can be used to value human capital of the manager, as well as the firm (see Nagar [1999], Kim [1999])." One motivation for withholding bad news is that managers face asymmetric payoffs to releasing good versus bad news. Good news disclosures ensure managers with continued employment and can boost their wealth connected to firm value. In contrast, bad news disclosures can lead to quick termination and reduce wealth. Terminations are costly to managers. They entail the loss of future income from their current employer, the loss of postretirement benefits (including directorships), and a diminution in future employment opportunities. Managers also bear costs arising from explicit contracts like bonus plans tied to earnings performance, or from reduced stock option grants. Managers' career concerns are especially heightened when a firm is approaching a state of financial distress (DeAngelo [1988], Gilson [1989], Weisbach [1988]). The link between financial distress and management turnover provides managers with incentives to delay the bad news in the hope of an eventual turnaround. Therefore, we expect the asymmetry in the disclosure of bad versus good news to be exacerbated in financially distressed firms.

In addition to incentives stemming from the effects of disclosure on human capital, managers' disclosure decisions are also swayed by the effect of disclosures on the value of equity, that is, stock and options, invested in the firm (Jensen [2005], Kothari, Loutskina, and Nikolaev [2006]). Considerable evidence suggests managers use aggressive accounting (accelerate recognition of good news) in an attempt to boost the value of their equity portfolio, or delay the recognition of bad news when facing the loss of wealth invested in firm equity (Bergstresser and Phillipon [2006], Burns and Kedia [2006], Cheng and Warfield [2005]). We expect similar effects on managers' voluntary disclosure decisions.

Managers' observed behavior is expected to be the net result of the manager trading off the costs against the benefits of withholding bad news. Moreover, because the costs and benefits are likely to vary cross-sectionally, we expect the extent of bad news withheld to vary predictably across firms. The above analysis leads to the following hypotheses:

H2a: The asymmetry in the market's reaction to good versus bad news is decreasing in the litigation risk facing a firm.

H2b: The asymmetry in the market's reaction to good versus bad news is increasing in the managers' career concerns.

H2c: The asymmetry in the market's reaction to good versus bad news is increasing in the insiders' stockholdings in the firms.

While managers may have incentives to withhold bad news, they also need the opportunities to do so. We argue that managers are better able to hide bad news when there is high information asymmetry between managers and investors.

H2d: The asymmetry in the market's reaction to good versus bad news is increasing in the level of information asymmetry between managers and investors.

Changes in disclosure rules and regulations over time can also affect managers' opportunities and incentives to leak or disclose good and bad news. For example, Reg FD is an important regulatory change passed in October 2000 that is intended to limit selective private disclosures to certain investors (often large institutional investors and analysts). Therefore, Reg FD arguably constrains managers' ability to informally leak information to investors before formal public disclosures of this information. Therefore, we predict that Reg FD makes the playing field a little more level regarding the disclosure of good and bad news.

H2e: The asymmetry in the market's reaction to good versus bad news is smaller after the passage of Reg FD.

The cross-sectional analysis serves two objectives. First, it enables us to examine whether the differential tendencies to withhold bad news are consistent with our hypotheses. Second, and perhaps more importantly, it enables us to ascertain whether the larger market reaction to bad news still holds after controlling for managers' various incentives.

Our analysis assumes efficient capital markets. The theoretical disclosure literature we rely on also assumes efficient markets (Verrecchia [1983, 2001], Dye [1985]). For example, Verrecchia [2001, p. 141] concludes that "equilibria exist in which information that favorably enhances the firm's current market capitalization is disclosed, and information that unfavorably enhances market capitalization is withheld ... despite the fact that market agents (e.g., investors) have 'rational expectations' about its content ..." The market is unable to unravel the withheld information in part because "uncertainty exists about whether the manager is informed or, equivalently, whether the information in question has yet to arrive ..." However, the predictions about managers withholding bad news are likely to be robust under the assumption of inefficient markets as well. We suspect if the market is fixated on reported financial numbers and disclosures, managers' incentive to withhold bad news is likely to be intensified. Bergman and Roychowdhury [2006] develop a theoretical model in which managers withhold bad news in periods of overvaluation and accelerate good news in periods of undervaluation in markets that are inefficient due to limited arbitrage.

3. Sample Selection and Descriptive Statistics

3.1 DIVIDEND CHANGE SAMPLE

We first investigate managers' voluntary decision to change dividend payouts to shareholders. Prior research documents that dividend-change announcements contain value-relevant information (e.g., Dielman and Oppenheimer [1984]). We examine whether there is an *asymmetric* market reaction to announcements of dividend decreases (i.e., bad news) compared to dividend increases (i.e., good news). We define a dividend change as the percentage change in dividends, $[Div(t) - Div(t-1)]/Div(t-1)$. To ensure that our sample captures economically meaningful dividend changes, we impose the following sample selection criteria. First, the absolute value of a firm's percentage dividend change must be greater than 1%. Second, the dividend change must occur after one year of a stable dividend pattern, that is, there is no dividend change in the year immediately preceding the current dividend change. Third, the most extreme 1% of *Divchg* observations are excluded to eliminate the effects of large special one-time dividends and/or potential data errors.[10] In addition, the firm must have all Center for Research in Security Prices (CRSP) and Compustat data necessary for our main analyses. Finally, we exclude financial institutions.[11] The final sample consists of 7,044 announcements of economically significant changes in firms' dividends between 1962 and 2004, including 5,803 dividend increases and 1,241 dividend decreases.

After creating the dividend change sample, we use the CRSP database to identify dividend change announcement dates and collect daily stock returns around these dates. To examine market reactions to these dividend changes, we calculate the five-day cumulative abnormal return (CAR) around each announcement date, where abnormal returns are defined as the firm's stock return minus the CRSP value-weighted market return.

As shown in table 1, panel A, there exists an asymmetry between the magnitudes of dividend increases versus decreases. The average dividend increase is around 25% while the average decrease is around 47%. This suggests that when firms decide to cut dividends, they cut them by a larger amount. One interpretation of the evidence is that firms resist cutting dividends until they have to (after the bad news has been accumulating for a while). Not surprisingly, investors' reactions to dividend increases versus decreases are also asymmetric. Table 1, panel A shows that investors react positively to announcements of dividend increases. For the main sample, the average five-day abnormal return around a dividend increase is 1.5%,

[10] Although we adjust data for share splits wherever we can, some might creep into the data because of coding errors. Therefore, we remove these remaining extreme observations.

[11] Our main analyses require the use of certain firm characteristics such as leverage and bankruptcy probability. The interpretation of these characteristics is fundamentally different for financial institutions.

TABLE 1
Descriptive Statistics

Panel A: Descriptive statistics for the dividend change sample

	Positive Dividend Change			Negative Dividend Change		
	# Obs.	*Divchg* = (*Div*(*t*) − *Div*(*t* − 1))/*Div*(*t*) Mean (Median)	5-Day Announcement Return Mean (Median)	# Obs.	*Divchg* = (*Div*(*t*) − *Div*(*t* − 1))/*Div*(*t*) Mean (Median)	5-Day Announcement Return Mean (Median)
Full sample	5,803	0.253	0.015	1,241	−0.467	−0.027
$N = 7{,}044$		(0.143)	(0.012)		(−0.474)	(−0.018)
Pre-Reg FD	5,311	0.237	0.016	1,066	−0.445	−0.030
$N = 6{,}377$		(0.143)	(0.012)		(−0.460)	(−0.023)
Post-Reg FD	492	0.429	0.013	175	−0.600	−0.004
$N = 667$		(0.155)	(0.010)		(−0.592)	(−0.005)

Panel B: Descriptive statistics for the management forecast sample

	Good News Forecasts			Bad News Forecasts		
	# Obs.	News Amount Mean (Median)	5-Day Announcement Return Mean (Median)	# Obs.	News Amount Mean (Median)	5-Day Announcement Return Mean (Median)
Full sample	965	0.316	0.047	3,051	−0.527	−0.083
$N = 4{,}016$		(0.105)	(0.038)		(−0.250)	(−0.049)
Pre Reg FD	424	0.446	0.039	1,435	−0.639	−0.133
$N = 1{,}859$		(0.125)	(0.030)		(−0.320)	(−0.099)
Post Reg FD	541	0.214	0.054	1,616	−0.428	−0.038
$N = 2{,}157$		(0.098)	(0.046)		(−0.204)	(−0.020)

The sample in panel A consists of 7,044 dividend change announcements between 1962 and 2004. *Divchg* [=(*Div*(*t*) − *Div*(*t* − 1))/*Div*(*t* − 1)] is the percentage change in the stated dividend payout. The sample includes dividend change announcements where |*Divchg*| > 0.01 and there are no dividend changes in the previous year. In addition, the most extreme 1% of *Divchg* observations are excluded. The pre–Regulation Fair Disclosure (Reg FD) subsample includes observations prior to October 2000.

The sample in panel B consists of 4,016 public management forecasts of quarterly earnings per share between 1995 and 2002 from the First Call database. *News*[=(*MgmtFcast* − *AnalystFcast*)/|*AnalystFcast*|] is the news content of management's forecast and is the difference between management's forecast of quarterly EPS and analysts' most recent consensus forecast (scaled by the absolute value of the analysts' consensus forecast). The good news sample consists of all observations where *News* >0. The bad news sample consists of all observations where *News* < 0. Raw announcement window returns are calculated for the five trading days surrounding the management forecast. The pre-Reg FD subsample includes observations prior to October 2000.

statistically different from zero at the 5% level. On the other hand, investors' reactions to dividend decreases are much larger, with an average abnormal return of −2.7%. We also conduct the same analysis for the period before and after the passage of Reg FD in October 2000. Prior to Reg FD, the five-day announcement return is 1.6% for the good news sample and −3.0% for the bad news sample. The difference in the magnitudes of the market reactions is both statistically and economically significant. On the other hand, the announcement returns are not significantly different across the good news and the bad news samples after the passage of Reg FD. This descriptive

evidence is consistent with the regulation leveling the playing field with respect to the leakage of good and bad news before public announcements of dividend changes.

We contend that the observed asymmetric market reaction to good versus bad news is consistent with firms withholding bad news while leaking good news early.[12] To provide direct evidence of our hypothesis, we examine the behavior of stock returns prior to dividend changes. Figure 1, panel A graphs the cumulative average abnormal returns for the positive (good news) and negative (bad news) dividend-change samples over a three-month period leading up to the dividend announcements. Figure 1, panel B scales the cumulative abnormal return by the total return over the window, essentially providing an estimate of the fraction of the total news revealed over time. As seen in figure 1, panel A, the three-month cumulative average abnormal return for both samples is approximately the same in magnitude, about 5%. However, the mean cumulative abnormal return for the good-news firms rises smoothly and steadily over this window, suggesting that the good news is gradually released (leaked). On the other hand, the bad-news firms appear to release a larger fraction (about 50%) of the bad news around the dividend announcement date.[13] This is also seen from the second graph, where the fraction of the cumulative abnormal return for the good news sample consistently lies above that of the bad news sample until the announcement date.

3.2 VOLUNTARY MANAGEMENT EARNINGS FORECAST SAMPLE

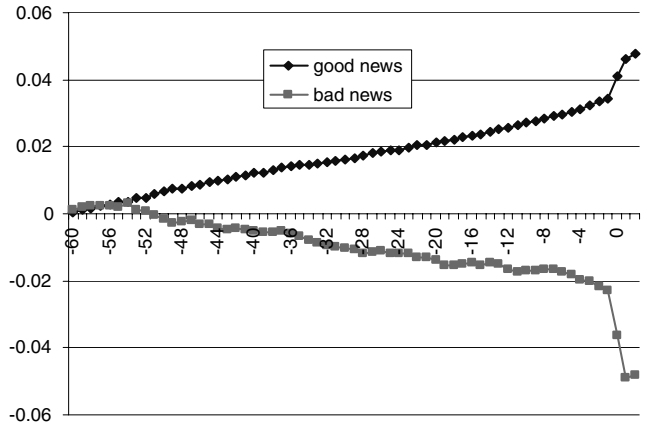
Prior research provides some evidence of an asymmetric market reaction to management forecasts of bad news versus good news (Skinner [1994], Soffer, Thiagarajan, and Walther [2000], Hutton, Miller, and Skinner [2003], Anilowski, Feng, and Skinner [2007]). In this section, we reexamine the market reaction to management earnings forecasts using recent data. Our management earnings forecasts sample consists of public management forecasts of quarterly earnings per share between 1995 and 2002 from the First Call database.

We define the news in management's earnings forecast, *News* (= [*MgmtFcast* – *AnalystFcast*]/|*AnalystFcast*|), as the difference between management's forecast of quarterly earnings per share (EPS) and analysts' most recent

[12] Private information acquisition is another way in which news is spread to outside investors. In our setting, the good news and bad news states of the world are not ex ante observable to outsiders that may engage in private information acquisition. Therefore, the intensity of private information acquisition *prior to* the management's news disclosure is unlikely to vary across good news and bad news events.

[13] While managers might attempt to withhold bad news prior to the public disclosure, they are unlikely to be successful in *entirely* shielding bad news from market participants. For example, if GM's car sales disclosed every few days decline by more than the expected amount, the market is likely to react negatively. Such bad news might be reflected in the stock prices prior to the public disclosure of bad news.

Graph A: Mean cumulative market-adjusted return



Graph B: Percentage of news released

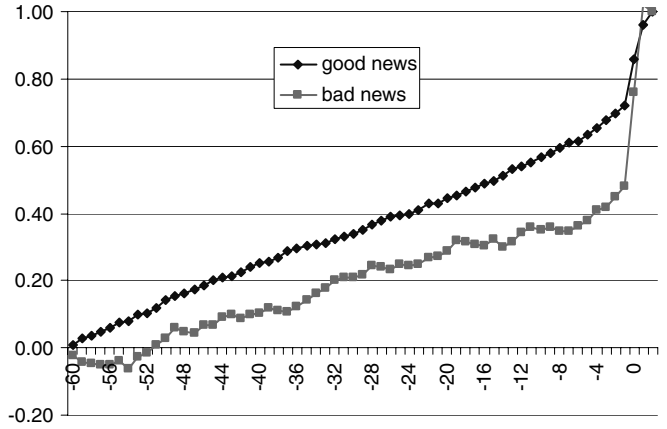


FIG. 1.—Cumulative stock returns prior to positive and negative dividend change announcements. Sample consists of 7,044 dividend change announcements between 1962 and 2004. *Divchg* [$=(Div(t) - Div(t-1))/Div(t-1)$] is the percentage change in stated dividend payout. The sample includes dividend change announcements where $|Divchg| > 0.01$, there are no dividend changes in the previous year, and the most extreme 1% of *Divchg* observations are excluded. Good-news observations include positive dividend changes (*Divchg*> 0) and bad-news observations include negative dividend changes ($Divchg < 0$). Panel A presents the mean cumulative market-adjusted returns for the good versus bad news samples prior to the dividend change announcement (day 0). Panel B presents the cumulative news up to day t scaled by the total news over the period (captures the percentage of total news released at any point in time).

consensus forecast (scaled by the absolute value of analysts' consensus forecast).[14] Again, we focus on economically meaningful management earnings forecast events. Therefore, we only include management forecasts where the absolute value of *News* is greater than 1%, and the absolute value of *AnalystFcast* > five cents per share. In addition, we exclude the most extreme 1% of *News* observations to minimize the effect of miscoded earnings and analyst forecasts. Finally, as in the dividend sample, we exclude financial institutions. The final sample consists of 4,016 management forecasts.

Using the First Call database, we identify the announcement date for each management earnings forecast and collect CRSP daily stock returns around these announcement dates. To examine announcement returns for voluntary disclosure events, we calculate the five-day cumulative abnormal return around each announcement date, where abnormal returns are defined as the firm's stock return minus the CRSP value-weighted market return.

As shown in table 1, panel B, there are 965 good news management earnings forecasts (i.e., *News* $\geq$ 0) and 3,051 bad news management earnings forecasts. The average amount of good news is 32%, while that of bad news is much larger, at −53%. Thus, notwithstanding the higher frequency of releasing bad news management forecasts, the magnitude of the bad news is substantially greater than good news, consistent with managers delaying and accumulating bad news while releasing good news promptly.

While prices react significantly to both good news and bad news announcements, the reaction is not symmetric. In table 1, panel B, the average five-day cumulative abnormal return (*Ret*) is +4.7% for the good news sample and −8.3% for the bad news sample. Consistent with the results in the dividend change sample, the asymmetry in price reaction is considerably muted in the post–Reg FD period. This evidence is again consistent with Reg FD leveling the playing field with respect to the leakage of good and bad news before public forecasts of earnings by management.

As in the dividend sample, we examine the stock returns prior to management forecasts. Figure 2 shows the return patterns of the good-news and the bad-news samples over a three-month period prior to the management forecasts. Figure 2, panel A shows the mean cumulative abnormal return. Figure 2, panel B shows the fraction of the total news revealed over time. The results are consistent with those of the dividend change sample, and the asymmetry is even more striking. In contrast to the smooth and steady increase in the cumulative abnormal return of the good-news sample, the cumulative abnormal return of the bad-news firms is close to zero initially,

[14] To address potential inaccuracies in the First Call management forecast database, we make sure that the First Call data are properly and consistently adjusted for split factors. In many cases, we go back and check the First Call numbers with the original press releases of management earnings forecasts. If there are inconsistencies, then the original press release information is used.

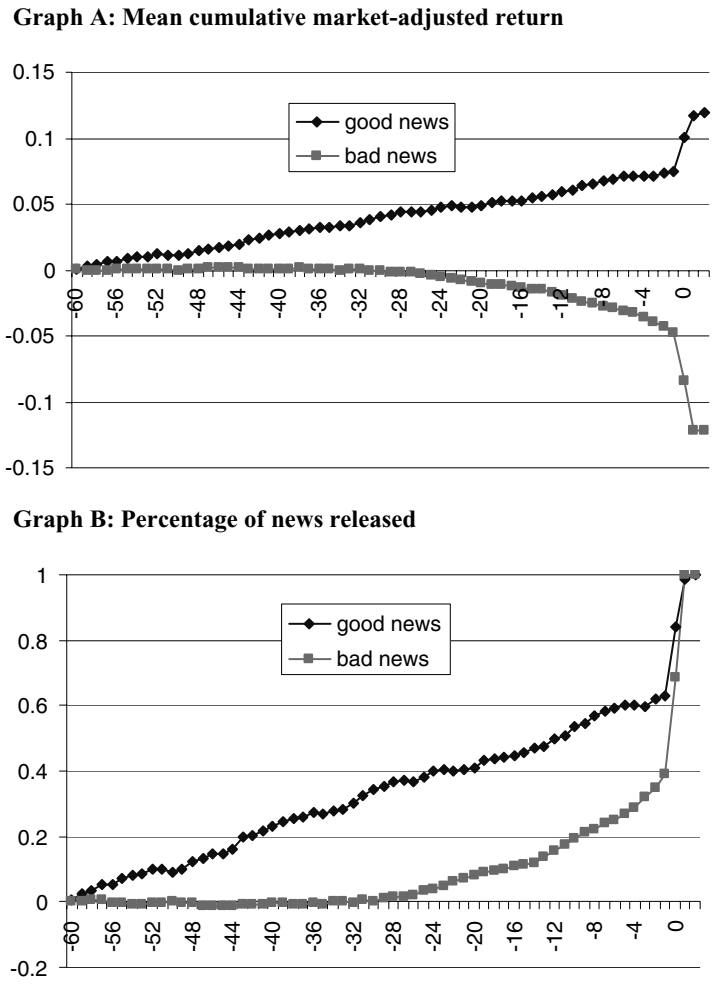


FIG. 2.—Cumulative stock returns prior to good and bad news management earnings forecasts. Sample consists of 4,016 public management forecasts of quarterly earnings per share between 1995 and 2002 from the First Call database. *News* [=(*MgmtFcast* − *AnalystFcast*)/|*AnalystFcast*|] is the new content of management's forecast and is the difference between management's forecast of quarterly EPS and analysts' most recent consensus forecast (scaled by the absolute value of the analysts' consensus forecast). The good news sample consists of all observations where *News* > 0. The bad news sample consists of all observations where *News* < 0. Panel A presents the mean cumulative market-adjusted returns for the good versus bad news samples prior to the management forecast date (day 0). Panel B presents the cumulative news up to day *t* scaled by the total news over the entire period (captures the percentage of total news released at any point in time).

and then drops sharply toward the end, with more than 80% of the news revealed in the last two weeks.

We discuss two potential concerns in using quarterly earnings management forecasts. First, the results might be driven by a preponderance of bad

news being released in the fourth fiscal quarter.[15] We therefore separately analyze management forecasts in the interim quarters versus in the fourth quarter. We find little difference in the stock price reactions between the two subsamples. Specifically, the mean return to bad news forecasts in the fourth quarter is −8.8% compared to −8.1% in the first three quarters. The corresponding numbers for the good news management forecasts are +4.2% and +4.9%.

Second, we analyze management forecasts of quarterly earnings, but not annual. If managers release good news early, but delay the release of bad news, we expect longer-horizon forecasts to contain relatively more good news, whereas short-term forecasts are dominated by bad news. Evidence from past research supports our prediction. Skinner [1994, table 2] reports that managements' annual earnings forecasts are more than twice as likely to be good news than bad news (72 good news versus 31 bad news annual forecasts). This ratio is reversed for quarterly earnings forecasts, with 109 bad news forecasts compared to 54 good news forecasts. The stock price reaction to annual bad news forecasts, however, is far greater in magnitude, −6.86%, compared to the average price reaction to good news forecasts, −0.28% (Skinner [1994, table 5]). Thus, even the longer-horizon good news forecasts are preempted by other, informal disclosures in earlier periods. Overall, the annual horizon management forecast behavior is consistent with the withholding of bad news hypothesis.

4. Empirical Proxies

In this section we discuss our empirical proxies of the factors that are predicted to influence managers' disclosure choices.

4.1 LITIGATION COSTS AND INCENTIVES TO RELEASE BAD NEWS

In section 2, we discuss the role of litigation risk as a factor that discourages withholding of bad news. We use two different measures of litigation risk. The first measure is calculated using the coefficient estimates obtained in Rogers and Stocken [2005]. The explanatory variables used in their model are primarily stock return–based variables such as market value, stock turnover, beta, and volatility (Rogers and Stocken [2005, appendix B]). All the variables are computed at the end of the fiscal year prior to our main events. Because the coefficients from Rogers and Stocken [2005] are estimated from a sample dating back to 1994, this litigation index may not be appropriate for our dividend sample, which has observations from as early as 1962. Instead, we use a second measure of litigation risk, which is based on

[15] Before signing off on audited financial statements, auditors in the fourth quarter ascertain whether any assets are impaired and whether there are any other unrecorded losses. This scrutiny has the potential to uncover bad news that must be recognized in the financial statements, leading to a preponderance of bad news in the fourth quarter.

industry legal exposure. Following Field, Lowry, and Shu [2005], we classify high legal exposure industries as those with above-median securities lawsuit rates. This measure is based on actual lawsuit rates across a variety of industries and is therefore more refined and less arbitrary than the high risk industry classifications commonly used in the literature.

4.2 INFORMATION ASYMMETRY

Firm-specific factors affecting disclosure include information asymmetry between management and investors (Verrecchia [1990]). In the traditional setting, high information asymmetry tends to provide incentives for managers to disclose all types of news to avoid market penalties from investors. However, with regard to the *differential* disclosure of bad news and good news, the role of information asymmetry is less clear. We argue that greater information asymmetry provides *opportunities* for managers to withhold bad news.

While it is difficult to identify a single variable that captures information asymmetry, we construct a factor utilizing five variables that potentially measure information asymmetry (1) market-to-book ratio, (2) stock volatility, (3) leverage ratio, (4) membership in high-tech industries, and (5) regulatory status. All the ratios are measured at the end of the previous fiscal year. Stock volatility is the standard deviation of daily stock returns in a one-year period ending two months prior to our main events. The market-to-book ratio is measured as the market value of equity over the book value of equity. Leverage is measured as long-term debt scaled by total assets. High-tech firms are firms with the Standard Industrial Classification (SIC) codes 2833–2836, 3570–3577, 3600–3674, 7371–7379 and 8731–8734. Regulated industries (other than financial institutions) are defined as SIC codes 4812–4813, 4833, 4841, 4811–4899, 4922–4924, 4931, and 4941.

For firms with high market-to-book ratios, a greater fraction of firm value is derived from growth opportunities rather than assets in place, which increases the information asymmetry between managers and investors. For firms with higher debt, the scrutiny of large debtholders can make it difficult for managers to withhold information, therefore reducing information asymmetry. In addition, firms with high stock volatilities are less transparent and face greater uncertainty, which creates higher information asymmetry. Finally, industry membership can capture variation in information asymmetry. Investors in technology firms may face greater information asymmetry given the uncertainty about future technologies. In contrast, firms in regulated industries must provide frequent detailed information to regulatory bodies, and timely mandated disclosures reduce potential information asymmetry with investors.

We use a factor analysis to extract one underlying information asymmetry factor. The factor is positively related to market-to-book ratio, stock volatility, and high-tech firms, and negatively related to leverage and regulatory status, as expected. Standard diagnostic tools, including Kaiser's measure of sampling adequacy, suggest that the factor model is well specified. We define

firms with above-median asymmetry factor scores as high information asymmetry firms and those below as low information asymmetry firms.[16]

4.3 MANAGERS' CAREER CONCERNS AND OWNERSHIP-RELATED INCENTIVES

We argue that managers have incentives to withhold bad news because of the adverse effect of bad news on their human capital and/or their personal wealth invested in the firm. Managers' career concerns are heightened when a firm is approaching financial distress (Gilson [1989]). Given that additional bad news increases the likelihood of both financial distress and management turnover, managers have strong incentives to delay bad news in the hope of an eventual turnaround. Therefore, we expect the asymmetry in the disclosure of bad versus good news to be exacerbated in financially distressed firms. To capture these incentives, we classify a firm year as being financially distressed if the Zmijewski [1984] *Z*-score financial distress rank is in the top decile of all firms in that year.

In addition to incentives stemming from career concerns, managers' disclosure decisions are also swayed by the effect of disclosures on the value of their wealth tied to the firm value. While the amount of managerial wealth tied to the firm value can help align managerial disclosure preferences with those of shareholders (Nagar, Nanda, and Wysocki [2003]), it can also discourage managers from disclosing bad news so as to prevent/delay the potential loss in wealth as a result of the bad news disclosure. To proxy for the amount of wealth invested in the firm by managers, we use the fraction of total shares outstanding held by managers and corporate insiders. This information is obtained from the Spectrum database. These ownership data are not available for all firms and are limited to years after 1980. Therefore, we create a subsample of firms to test the effect of insider and managerial ownership on the withholding of bad news.

5. Empirical Results

In this section, we describe our empirical tests of the asymmetry in management's disclosures of good and bad news. We first investigate market reactions to dividend changes. We then examine market reactions to voluntary management earnings forecasts.

5.1 DIVIDEND CHANGE SAMPLE

In table 2, we document the asymmetric stock price reaction to dividend increases and decreases. The baseline regression specification in column 1 is:

---

[16] The variables used to estimate information asymmetry are available for the entire sample period, with the dividend sample dating back to 1962. In untabulated tests, we also use other variables to proxy for information environment, such as the number of analysts following and the number of shareholders. These data are available only for a subsample of our firms. Using these alternative measures does not change our main inferences.

TABLE 2

Market Reactions to Dividend Change Announcements

Regression Models:

$$Ret = \alpha + \beta_0 Neg + \varepsilon \quad (1)$$

$$Ret = \alpha + \beta_0 Neg + \beta_1 Divchg + \beta_2 Divchg * Neg + \varepsilon \quad (2)$$

Variable	Model (1): Coefficient (*t*-Statistic)	Model (2): Coefficient (*t*-Statistic)
Intercept	0.015	0.014
	(*20.83*)	(*15.49*)
Neg	−0.042	−0.029
	(*−23.94*)	(*−7.39*)
Divchg		0.007
		(*3.36*)
Divchg ∗ *Neg*		0.018
		(*2.40*)
Adj. R^2	7.5%	7.8%
# Obs.	7,044	7,044
F-tests: magnitude of return for negative news firms equals that for positive news firms	Sum of estimated Intercept and *Neg* = −0.027 Test: (Intercept + *Neg*) = −1 ∗ 0.015 [one-sided *p*-value < 0.001]	Sum of estimated Intercept and *Neg* = −0.015 Test: (Intercept + *Neg*) = −1 ∗ 0.014 [one-sided *p*-value = 0.29]

The sample consists of 7,044 dividend change announcements between 1962 and 2004. *Divchg* [=(*Div*(*t*) − *Div*(*t*−1))/*Div*(*t*−1)] is the percentage change in the stated dividend payout. The sample includes dividend change announcements where |*Divchg*| > 0.01, there are no dividend changes in the previous year, and the most extreme 1% of *Divchg* observations are excluded. Good news observations include positive dividend changes (*Divchg* > 0) and bad news observations include negative dividend changes (*Divchg* < 0). *Neg* is a categorical variable that equals one for negative dividend changes. *Ret* is the announcement window returns calculated for the five trading days surrounding the dividend change announcement date. *T*-statistics are italicized.

$$Ret = \alpha + \beta_0 Neg + \varepsilon, \quad (1)$$

where *Ret* is the five-day cumulative abnormal stock return around the dividend announcement, and *Neg* is a dummy variable that equals one for negative dividend changes, and zero otherwise.[17] At the bottom of column 1, we present the *F*-test test of whether the estimated intercept coefficient (which captures the average stock return of +1.5% around positive dividend changes) is smaller in magnitude than the sum of the estimated intercept and *Neg* coefficients (which captures the average stock return of −2.7% around negative dividend changes). The *F*-test confirms the descriptive results in table 1 that the market's reaction to dividend decreases is significantly larger than the reaction to dividend increases.

[17] The unconditional expected dividend change in the sample is close to zero, and therefore this baseline dividend model (in tables 1 and 2) is a reasonable benchmark for investors' expectations of the next period's dividend. However, as a robustness check, we explicitly account for the fact that the mean value of the dividend change variable is a small positive value. We reestimate regression model (1) and model (2) using this modified dividend expectation model to calculate both *Neg* and *Divchg*. Our results are essentially unchanged from those in table 2.

The market reaction to dividend cuts might be more pronounced because (1) the amount of total news revealed is greater for bad news disclosures and/or (2) the information content *per unit of news* is greater because investors are more surprised by the bad news disclosures. Either explanation is consistent with the scenario that managers withhold and accumulate bad news until it becomes too costly to hide the information. Nonetheless, we estimate a regression of the firm's five-day cumulative stock return around the dividend announcement that includes the amount of news contained in the dividend announcement:

$$Ret = \alpha + \beta_0 Neg + \beta_1 Divchg + \beta_2 Divchg * Neg + \varepsilon, \quad (2)$$

where *Divchg* is the percentage change in the dividends. Column 2 of table 2 presents the regression results for model (2).

As can be seen, the sum of the estimated intercept and *Neg* coefficients (which captures the baseline stock return of -1.5% for negative dividend changes) is slightly larger in magnitude than the estimated intercept coefficient (which captures the baseline stock return of $+1.4\%$ for positive dividend changes). The difference, though directionally consistent with our expectation, is not statistically significant. However, the interaction variable, $Divchg * Neg$, is positive and highly significant. It implies that, for a given percentage change in dividends, investor reaction to negative dividend changes is more pronounced than for positive dividend changes, probably because investors are more surprised by negative changes. As discussed earlier, this scenario is also consistent with the notion that managers accumulate and withhold bad news, but leak and disclose good news early.

We next estimate this asymmetric reaction to dividend increases and decreases after controlling for factors that affect managers' opportunities and incentives to withhold bad news. First, we examine the effect of Reg FD. As discussed earlier, the passage of Reg FD arguably has limited the ability of managers to informally leak good news to analysts and institutional investors prior to the announcements of dividend increases. This potentially mitigates the asymmetric market reactions to dividend increases versus decreases. Second, we examine whether high-litigation-risk firms are less likely to delay the disclosure of bad news before dividend decreases. Third, we explore whether firms with high information asymmetry between insiders and outside investors are better able to hide and delay bad news. Fourth, we explore whether firms in financial distress tend to withhold bad news due to heightened managerial career concerns. Finally, we explore the role of insider ownership on this asymmetry.

We examine the effects of these factors using the following regression:

$$\begin{aligned} Ret = {} & \alpha + \beta_0 Neg + \beta_1 RegFD + \beta_2 RegFD * Neg + \beta_3 HiLitRisk \\ & + \beta_4 HiLitRisk * Neg + \beta_5 HiAsymm + \beta_6 HiAsymm * Neg \\ & + \beta_7 HiDistress + \beta_8 HiDistress * Neg + \varepsilon, \end{aligned} \quad (3)$$

where *RegFD, HiLitRisk, HiAsymm*, and *HiDistress* are dummy variables (see section 4).

Column 1 of table 3 presents the estimates of regression model (3) for the dividend sample. At the bottom of column 1, we summarize the *F*-test of whether the estimated intercept coefficient (implying a baseline stock return of 1.5% around dividend increases) is smaller in magnitude than the sum of the estimated intercept and *Neg* coefficients (implying a baseline stock return of −4.0% (=0.015 − 0.055) around dividend decreases). The *F*-test confirms that the market's baseline reaction to dividend decreases is significantly larger than that to dividend increases. Therefore, the larger market reaction to bad news still holds after controlling for managers' various incentives. Second, the interaction of *RegFD* and *Neg* is positive and statistically significant, while the coefficient on *RegFD* is not significant. This suggests that after the passage of Reg FD, firms are less likely to withhold bad news (relative to good news).[18] Third, the interaction of *HiLitRisk* and *Neg* is positive and statistically significant, consistent with litigation concerns mitigating managers' incentives to delay the release of bad news to investors.

In column 2, we examine whether investors react more to dividend cuts than to dividend increases after controlling for the magnitude of the news. The specification in column 1 does not distinguish whether the asymmetry is due to the differential amounts of news revealed or to the differential information content *per unit of news,* since both scenarios are consistent with our withholding hypothesis.[19] Nevertheless, for the sake of completeness, we re-estimate regression model (3) and include the dividend change amount. The *F*-test confirms that the baseline stock price reaction to negative dividend changes (−3.5% (=0.013 − 0.048)) is larger than the baseline reaction to positive dividend changes (1.3%). The other coefficients in this regression are also qualitatively similar to those reported in column 1.

We next include an additional variable that captures managers' incentives to withhold bad news, that is, the amount of managers' wealth tied to the equity value of the firm. We estimate this effect using a subsample of firms that have available insider ownership data. The results of these tests are presented in column 3 and column 4. Overall, the main inferences are consistent with those in column 1 and column 2, as confirmed by the *F*-test results. In addition, we find that the coefficient on *HiInsideOwn* is positive and significant, while that on the interaction of *HiInsiderOwn* and

[18] In fact, after the passage of Reg FD, the price reaction to dividend increases is 1.3% (= 0.015 − 0.002), and the price reaction to dividend decreases is −1.5% (= 0.015 − 0.055 − 0.002 + 0.027). The returns are not significantly different from each other in absolute magnitude using an *F*-test (not tabulated). This suggests that the asymmetric price reaction has dissipated in the post–Reg FD period.

[19] Specifically, suppose we find that the market reaction *per unit of news* is not different across the good and bad news samples, but the amount of news disclosed is greater for bad news than for good news disclosures, leading to greater reaction to a bad news disclosure. This scenario is still consistent with our withholding story.

TABLE 3

Cross-sectional Variations in Market Reactions to Dividend Changes

Regression Model:

$$Ret = \alpha + \beta_0 Neg + \beta_1 RegFD + \beta_2 RegFD * Neg + \beta_3 HiLitRisk + \beta_4 HiLitRisk * Neg + \beta_5 HiAsymm + \beta_6 HiAsymm * Neg + \beta_5 HiDistress + \beta_6 HiDistress * Neg + \beta_7 HiInsideOwn + \beta_8 HiInsideOwn * Neg + \varepsilon$$

Variable	Full Sample		Ownership Subsample	
Intercept	0.015	0.013	0.010	0.009
	(*10.79*)	(*9.16*)	(*5.39*)	(*5.03*)
Neg	−0.055	−0.048	−0.042	−0.038
	(*−16.77*)	(*−13.88*)	(*−9.37*)	(*−8.13*)
RegFD	−0.002	−0.003	−0.001	−0.001
	(*−0.80*)	(*−1.32*)	(*−0.40*)	(*−0.38*)
*RegFD * Neg*	0.027	0.029	0.019	0.018
	(*5.09*)	(*5.57*)	(*3.11*)	(*3.05*)
HiLitRisk	0.001	0.001	0.001	0.001
	(*0.33*)	(*0.26*)	(*0.51*)	(*0.38*)
*HiLitRisk * Neg*	0.013	0.012	0.010	0.009
	(*3.70*)	(*3.44*)	(*2.33*)	(*2.08*)
HiAsymm	0.001	0.001	−0.001	−0.001
	(*0.97*)	(*0.77*)	(*−0.43*)	(*−0.43*)
*HiAsymm * Neg*	0.004	0.005	0.007	0.008
	(*1.15*)	(*1.29*)	(*1.57*)	(*1.80*)
HiDistress	0.001	0.001	0.001	0.001
	(*0.02*)	(*0.09*)	(*0.32*)	(*0.11*)
*HiDistress * Neg*	0.003	0.003	0.004	0.004
	(*0.50*)	(*0.61*)	(*0.54*)	(*0.62*)
HiInsideOwn			0.007	0.007
			(*3.93*)	(*3.78*)
*HiInsideOwn * Neg*			−0.010	−0.011
			(*−2.22*)	(*−2.53*)
Divchg		0.008		0.004
		(*4.49*)		(*1.72*)
Adj. R^2	8.1%	8.1%	6.0%	6.1%
# Obs.	7,044	7,044	4,312	4,312
Coefficients *F*-test:	Test: Intercept + *Neg* = −1 * 0.015 (*p*-value < 0.001)	Test: Intercept + *Neg* = −1 * 0.013 (*p*-value < 0.001)	Test: Intercept + *Neg* = −1 * 0.010 (*p*-value < 0.001)	Test: Intercept + *Neg* = −1 * 0.009 (*p*-value < 0.001)

The sample consists of 7,044 dividend change announcements between 1962 and 2004. *Divchg* [=(*Div*(*t*) − *Div*(*t*−1))/*Div*(*t*−1)] is the percentage change in the stated dividend payout. The sample includes dividend change announcements where |*Divchg*| > 0.01, there are no dividend changes in the previous year, and the most extreme 1% of *Divchg* observations are excluded. *Neg* is a categorical variable that equals one for negative dividend changes. *Ret* is the announcement window returns calculated for the five trading days surrounding the dividend change announcement date. *RegFD* is a dummy variable that equals 1 if the announcement occurs after the passage of Regulation FD in October 2000, and 0 otherwise. *HiLitRisk* is a dummy variable that equals 1 if the firm is from an industry with above-median securities lawsuit rates, and 0 otherwise. We determine industry securities lawsuit rates from Field, Lowry, and Shu [2005]. *HiAsymm* is a dummy variable that equals 1 if the firm is above the median value of a single information-asymmetry factor, and 0 otherwise. The information-asymmetry factor is derived from a factor analysis based on the information asymmetry proxies: market-to-book ratio, stock volatility, high-tech firms, financial leverage, and regulatory status. *HiDistress* is a dummy variable that equals 1 if the firm's *Z*-score (Zmijewski (1984)) financial distress rank is in the top decile of all firms in a given year, and 0 otherwise. *HiInsideOwn* is a dummy variable that equals 1 if the firm has above-median insider ownership in a given year, and 0 otherwise. Insider ownership is calculated as the fraction of total shares outstanding held by managers and corporate insiders using data from the Spectrum database for firms after 1980. *T*-statistics are italicized.

TABLE 4

Market Reactions to Management Forecasts

Regression Models:

$$Ret = \alpha + \beta_0 Bad + \varepsilon \quad (4)$$

$$Ret = \alpha + \beta_0 Bad + \beta_1 ForecastRevision + \beta_2 ForecastRevision * Bad + \varepsilon \quad (5)$$

Variable	Coefficient (*t*-Statistic)	Coefficient (*t*-Statistic)
Intercept	0.047	0.048
	(*10.38*)	(*9.68*)
Bad	−0.130	−0.111
	(*−24.88*)	(*−19.40*)
ForecastRevision		−0.002
		(*−0.23*)
ForecastRevision ∗ *Bad*		0.039
		(*5.36*)
Adj. R^2	13.3%	17.4%
# Obs.	4,016	4,016
Coefficients *F*-test:	*F*-test: Intercept + *Neg* = −1 ∗ 0.047 (*p*-value < 0.001)	*F*-test: Intercept + *Neg* = −1 ∗ 0.048 (*p*-value < 0.001)

The sample consists of 4,016 public management forecasts of quarterly earnings per share between 1995 and 2002 from the First Call database. *ForecastRevision* [=(*MgmtFcast* − *AnalystFcast*)/|*AnalystFcast*|] is the new content of management's forecast and is the difference between management's forecast of quarterly EPS and analysts' most recent consensus forecast (scaled by the absolute value of the analysts' consensus forecast). *Bad* is a categorical variable that equals one if *News* < 0. Announcement window returns (*Ret*) are calculated for the five trading days surrounding the management forecast. *T*-statistics are italicized.

Neg is negative and significant. An *F*-test (untabulated) similar to the intercept test above shows that the coefficient on the dummy *HiInsideOwn* is not statistically different in absolute magnitude from the sum of estimated coefficients on *HiInsideOwn* and *HiInsideOwn* ∗ *Neg*. It appears the asymmetric market reaction to dividend increases and decreases does not vary with insider ownership.

5.2 MANAGEMENT FORECAST SAMPLE

Similar to our analysis of the dividend change sample, we regress the five-day cumulative abnormal stock returns around management forecasts on the news contained in the forecasts. In table 4, we document the asymmetric stock price reaction to good news and bad news management earnings forecasts. The baseline regression specification in column 1 is:

$$Ret = \alpha + \beta_0 Bad + \varepsilon, \quad (4)$$

where *Ret* is the five-day cumulative abnormal stock return around the forecast, and *Bad* is a categorical variable that equals one for bad news management earnings forecasts where the management forecast is below analysts' prior consensus forecast, and zero for good news management earnings forecasts. At the bottom of the table, we present the *F*-test test of whether the estimated intercept coefficient (implying a stock return of 4.7% around good news management forecasts) is smaller in magnitude than the sum of the estimated intercept and *Bad* coefficients (implying an average stock

return of −8.3% around bad news management forecasts). The *F*-test confirms that the market's reaction to bad news forecast is significantly larger than that to good news forecasts.

Similar to the dividend sample, we also estimate a regression that includes the magnitude of the news in the forecasts. Specifically, we estimate the following regression:

$$Ret = \alpha + \beta_0 Bad + \beta_1 ForecastRevision + \beta_2 ForecastRevision * Bad + \varepsilon, \quad (5)$$

where *ForecastRevision* is the percentage change in the management's forecasted earnings relative to the prior analyst consensus. Column 2 presents the regression results for model (5).

Consistent with our prior results, the *F*-tests show that the sum of the estimated coefficients on the intercept and *Bad* (implying a return of −6.3% for the bad news sample) is significantly larger in magnitude than the estimated intercept (+4.8% for the good news sample). Further, the interaction variable, *ForecastRevision* ∗ *Bad*, is positive and highly significant. Taken together, the results suggest a strong asymmetry in investors' reactions to bad news versus good news forecasts, consistent with the notion that managers accumulate and withhold bad news, but leak and disclose good news early.

We next investigate whether this asymmetric reaction to good news and bad news earnings forecasts varies with managers' opportunities and incentives to withhold bad news. We estimate the following regression:

$$\begin{aligned} Ret = {} & \alpha + \beta_0 Bad + \beta_1 RegFD + \beta_2 RegFD * Bad + \beta_3 HiLitRisk \\ & + \beta_4 HiLitRisk * Bad + \beta_5 HiAsymm + \beta_6 HiAsymm * Bad \\ & + \beta_7 HiDistress + \beta_8 HiDistress * Bad + \varepsilon. \end{aligned} \quad (6)$$

Column 1 of table 5 presents the estimates of regression model (6) for the forecast sample. The *F*-test shows that the estimated intercept coefficient (implying a baseline stock return of +2.9% around good news forecasts) is significantly smaller in magnitude than the sum of the estimated intercept and *Bad* coefficients (implying a baseline stock return of −10.6% (=0.029 − 0.135) around bad news forecasts). The interaction of *RegFD* and *Bad* is also positive and significant, even though the coefficient on *RegFD* is insignificant. This suggests that after the passage of Reg FD, firms are less likely to delay a bad news forecast (relative to a good news forecast). Third, the interaction of *HiLitRisk* and *Bad* is positive, but not significant. Fourth, we find that the coefficient on *HiAsymm* is positive and significant, while that on the interaction of *HiAsymm* and *Bad* is negative and significant. Further, an *F*-test (untabulated) similar to the intercept test above shows that the coefficient on the dummy *HiAsymm* is significantly smaller in absolute magnitude than the sum of the estimated coefficients on *HiAsymm* and *HiAsymm* ∗ *BAD*. This is consistent with firms with greater information asymmetry between insiders and outside investors having greater ability to withhold bad news.

TABLE 5

Cross-sectional Variations in Market Reactions to Management Forecasts

Regression Model:

$$Ret = \alpha + \beta_0 Bad + \beta_1 RegFD + \beta_2 RegFD * Bad + \beta_3 HiLitRisk + \beta_4 HiLitRisk * Bad + \beta_5 HiAsymm + \beta_6 HiAsymm * Bad + \beta_7 HiDistress + \beta_8 HiDistress * Bad + \beta_9 HiInsideOwn + \beta_{10} HiInsideOwn * Bad + \varepsilon$$

Variable	Full Sample		Ownership Subsample	
Intercept	0.029	0.016	0.026	0.014
	(*3.70*)	(*2.02*)	(*3.02*)	(*1.54*)
Bad	−0.135	−0.112	−0.120	−0.101
	(*−14.92*)	(*−12.02*)	(*−12.02*)	(*−9.84*)
RegFD	0.012	0.017	0.010	0.014
	(*1.40*)	(*1.92*)	(*1.07*)	(*1.52*)
*RegFD * Bad*	0.082	0.073	0.081	0.073
	(*8.20*)	(*7.30*)	(*7.92*)	(*7.11*)
HiLitRisk	−0.010	−0.022	−0.008	−0.019
	(*−0.69*)	(*−1.49*)	(*−0.52*)	(*−1.29*)
*HiLitRisk * Bad*	0.025	0.035	0.017	0.029
	(*1.42*)	(*2.03*)	(*1.00*)	(*1.65*)
HiAsymm	0.022	0.029	0.020	0.028
	(*2.47*)	(*3.30*)	(*2.14*)	(*3.05*)
*HiAsymm * Bad*	−0.073	−0.070	−0.070	−0.070
	(*−7.21*)	(*−6.97*)	(*−6.57*)	(*−6.56*)
HiDistress	0.018	0.015	0.018	0.013
	(*1.32*)	(*1.10*)	(*1.27*)	(*0.90*)
*HiDistress * Bad*	−0.035	−0.023	−0.028	−0.016
		(*−1.42*)	(*−1.65*)	(*−1.65*)
HiInsideOwn			0.008	0.009
			(*0.92*)	(*0.96*)
*HiInsideOwn * Bad*			−0.028	−0.023
			(*−2.66*)	(*−2.23*)
ForecastRevision		0.026		0.025
		(*10.73*)		(*9.45*)
Adj. R^2	22.7%	24.9%	23.1%	24.9%
# Obs.	4,016	4,016	3,677	3,677
Coefficients *F*-test:	Test: Intercept + *Bad* = −1 * 0.029 (*p*-value < 0.001)	Test: Intercept + *Bad* = −1 * 0.016 (*p*-value < 0.001)	Test: Intercept + *Bad* = −1 * 0.026 (*p*-value < 0.001)	Test: Intercept + *Bad* = −1 * 0.014 (*p*-value < 0.001)

The sample consists of 4,016 public management forecasts of quarterly earnings per share between 1995 and 2002 from the First Call database. *ForecastRevision* [=(*MgmtFcast* − *AnalystFcast*)/|*AnalystFcast*|] is the new content of management's forecast and is the difference between management's forecast of quarterly EPS and analysts' most recent consensus forecast (scaled by the absolute value of the analysts' consensus forecast). *Bad* is a categorical variable that equals one if *News* < 0. Announcement window returns (*Ret*) are calculated for the five trading days surrounding the management forecast. *RegFD* is a dummy variable that equals 1 if the announcement occurs after the passage of Regulation FD in October 2000, and 0 otherwise. *HiLitRisk* is a dummy variable that equals 1 if the firm's estimated litigation risk is above the sample median, and 0 otherwise. Litigation risk estimates are based on the Rogers and Stocken [2005, appendix B] litigation risk prediction model based using firm market value, stock turnover, beta, and volatility as explanatory variables. All the variables are computed at the end of the fiscal year prior to our main events. *HiAsymm* is a dummy variable that equals 1 if the firm is above the median value of a single information-asymmetry factor, and 0 otherwise. The information-asymmetry factor is derived from a factor analysis based on the information asymmetry proxies: market-to-book ratio, stock volatility, high-tech firms, financial leverage, and regulatory status. *HiDistress* is a dummy variable that equals 1 if the firm's *Z*-score (Zmijewski (1984)) financial distress rank is in the top decile of all firms in a given year, and 0 otherwise. *HiInsideOwn* is a dummy variable that equals 1 if the firm has above-median insider ownership in a given year, and 0 otherwise. Insider ownership is calculated as the fraction of total shares outstanding held by managers and corporate insiders using data from the Spectrum database for firms after 1980. *T*-statistics are italicized.

Finally, the interaction of *HiDistress* and *Bad* is negative and significant, while the coefficient on *HiDistress* is insignificant. This supports the notion that managers of distressed firms delay the release of bad news due to greater career concerns.

In column 2, we re-estimate the above regression and add management forecast revision to control for the magnitude of the news. As can be seen, the main result on the asymmetric reaction to good and bad news is unchanged. The *F*-test again confirms that the market's baseline reaction to bad news (−9.4% (=0.016 − 0.112)) is significantly larger in magnitude than the reaction to good news (1.6%). The other coefficients in this regression are also qualitatively similar to those reported in column 1. Among the cross-sectional interaction variables, the effect of litigation risk (*HiLitRisk* ∗ *Bad*) is now significant in the predicted direction while the significance of financial distress (*HiDistress* ∗ *Bad*) decreases.

Column 3 and column 4 present the regression results using the subsample of firms that have available insider ownership data. Again, we find similar coefficients on the main variables. The *F*-tests at the bottom of the columns confirm that the baseline stock price reaction to negative news is larger in magnitude than that to positive news. In addition, the coefficient on the interaction of *HiInsiderOwn* and *Bad* is significantly negative, while that on *HiInsiderOwn* is insignificant. This suggests that firms with high insider ownership are more likely to withhold bad news.

5.3 NEWS RELEASED PRIOR TO VOLUNTARY DISCLOSURE EVENTS

Our descriptive evidence in figure 1 and figure 2 suggests that managers withhold bad news and leak good news *prior* to disclosure events. We further test this conjecture using regressions similar to model (1) through model (6). The dependent variable, *FracNews*, captures the fraction of total news impounded in stock prices prior to the disclosure event. It is defined as the cumulative stock return for firm *i* from day −60 through day −10 scaled by the cumulative stock return over the entire three-month window through day +2 (where day 0 is the disclosure event date).

In panel A of table 6, we present simple regressions to test if the fraction of total news (*FracNews)* released *prior* to the disclosure event varies with the type of news (where bad news is captured by the dummy variable *Neg*).[20] For both management forecasts and dividend changes, we find that around 63% of the news is prereleased or leaked prior to good news events. On the other hand, we find that only 49% of the management forecast news and 60%

[20] The observation numbers in table 6 are lower than other tables because we exclude observations where firm-level *FracNews* is not well defined. Specifically, if a bad-news firm has positive *CAR*s over the entire three-month window (the denominator) and over the subperiod leading up to day −10 (the numerator), then *FracNews* is not meaningful. Similar logic applies to a good news firm that has negative *CAR*s as the denominator and the numerator. On the other hand, figure 1 and figure 2 use all observations because the graphs are based on portfolio-level statistics.

TABLE 6

Relative Amount of News Released Prior to News Announcements

	Dividend Sample		Forecast Sample	
Variable	Coefficient	*t*-Statistic	Coefficient	*t*-Statistic
Panel A: Baseline regression				
Intercept	0.633	106.41	0.627	43.74
Neg	−0.037	−2.56	−0.133	−8.03
Adj. R^2	0.1%		2.3%	
Panel B: Reg FD regression				
Intercept	0.631	101.65	0.636	27.47
Neg	−0.044	−2.92	−0.195	−7.59
RegFD	0.024	1.1	−0.015	−0.5
RegFD ∗ *Neg*	0.068	1.41	0.135	4.00
Adj. R^2	0.2%		4.0%	
Panel C: Complete regression w/controls				
Intercept	0.644	56.48	0.658	23.29
Neg	−0.073	−2.87	−0.214	−6.70
RegFD	0.025	1.14	−0.014	−0.47
RegFD ∗ *Neg*	0.062	1.27	0.133	3.95
Hi LitRisk	−0.026	−2.18	−0.027	−0.48
Hi LitRisk ∗ *Neg*	0.069	2.36	0.127	2.03
Hi Asymm	0.009	0.72	−0.038	−1.32
Hi Asymm ∗ *Neg*	−0.014	−0.47	0.005	0.16
Hi Distress	−0.031	−1.42	−0.014	−0.32
Hi Distress ∗ *Neg*	0.036	0.79	0.055	1.03
Adj. R^2	0.3%		4.5%	
# Obs.	4,906		2,761	

Samples consist of: (1) 4,906 dividend change announcements between 1962 and 2004 and (2) 2,761 public management forecasts of quarterly earnings per share between 1995 and 2002 from the First Call database. The dependent variable, *FracNews*, captures the fraction of total news impounded in a firm's stock price prior to the disclosure event. The numerator is the three-month *CAR* for firm *i* until day −10, and the denominator is total *CAR* for firm *i* over the entire three-month window. *Neg* is a categorical variable that equals 1 for negative dividend changes or bad news management forecasts, and 0 otherwise. *RegFD* is a dummy variable that equals 1 if the announcement occurs after the passage of Regulation FD in October 2000, and 0 otherwise. *HiLitRisk* is a dummy variable that equals 1 if the firm has high litigation risk, and 0 otherwise (see table 3 and table 5 for the classification of litigation risk for the dividend and forecast samples). *HiAsymm* is a dummy variable that equals 1 if the firm is above the median value of a single information-asymmetry factor, and 0 otherwise. The information-asymmetry factor is derived from a factor analysis based on the information asymmetry proxies: market-to-book ratio, stock volatility, high-tech firms, financial leverage, and regulatory status. *HiDistress* is a dummy variable that equals 1 if the firm's *Z*-score (Zmijewski (1984)) financial distress rank is in the top decile of all firms in a given year, and 0 otherwise.

of the dividend news are prereleased or leaked prior to bad news events. These differences between the good and bad news groups are statistically significant.

In panel B and panel C we include controls for the effects of Reg FD as well as cross-sectional firm attributes such as proxies for litigation risk and information asymmetry. In all cases, we find that there is systematically greater leakage of good news compared to bad news prior to voluntary disclosure events.

5.4 SUMMARY

The conclusions that emerge from the empirical analysis are as follows. First, the stock market reaction to good and bad news disclosures is

asymmetric and consistent with management delaying the disclosure of bad news relative to good news. Second, we find evidence that managers with greater opportunities and incentives to withhold bad news tend to delay the release of the bad news to investors. Finally, our evidence suggests that in the post–Reg FD period the tendency (or ability) to delay bad news significantly declines.

6. *Competing Explanations*

In this section we examine various competing explanations for the observed asymmetric market reactions to good and bad news disclosures. We discuss and provide additional evidence on why they are unlikely to fully explain our findings.

6.1 MANAGERS DISCLOSE BAD NEWS PROMPTLY, BUT GOOD NEWS GRADUALLY

We conceptually and empirically examine the notion that managers disclose bad news promptly and good news gradually. First, in an efficient market, investors recognize that only a portion of the good news is disclosed, and they rationally infer the remaining good news based on the disclosed portion (i.e., the tip of the iceberg).[21] Therefore, the price reaction is expected to be the discounted present value of the cash flow consequences of both disclosed and inferred good news. Consequently, the magnitude of the price reaction to good news should, on average, equal that of bad news.

Second, we calculate the average absolute forecast errors for good and bad news management forecasts. If good news forecasts only reveal a fraction of the total news, they should have larger forecast errors (differences between the actual earnings and the management forecasts) than the bad news forecasts. For our sample of 4,016 management forecasts, the mean (median) absolute forecast error for the good news forecasts is 5.9% (5.1%), and for the bad news sample forecast it is 6.2% (4.8%). The mean absolute forecast error for the good news sample is smaller, *not larger*, than that for bad news. However, the differences in the means and the medians are statistically insignificant. This is inconsistent with the competing explanation that good news is released gradually, but bad news promptly and in entirety.

Third, prior studies of management earnings preannouncements suggest that managers release all of their bad news at the earnings preannouncement, whereas they only release part of the good news at the earnings preannouncement (Soffer, Thiagarajan, and Walther [2000]). Thus, *conditional* on releasing bad news (possibly after bad news is withheld and accumulating for a while), managers choose to disclose most of it at the preannouncement date rather than further delay the news until the earnings announcement

[21] Previous research claiming that managers release bad news early (based on stock market reactions) also explicitly or implicitly assumes market efficiency.

date. Since the results in Soffer, Thiagarajan, and Walther [2000] do not indicate when managers learn of the bad or good news, one cannot interpret the evidence as managers releasing bad news more promptly than good news. In fact, if managers systematically release bad news more promptly than good news, we expect a larger stock price reaction *per unit* of announced good news compared to bad news. Our tests (table 2 and table 4) show the opposite. Furthermore, our evidence from figure 1 and figure 2 suggests that managers withhold bad news and leak good news prior to management forecasts.

Finally, our cross-sectional tests support the "withhold-bad-news" hypothesis rather than the "promptly-disclose-bad-news" explanation. If firms promptly release bad news and only gradually release good news, then we expect the asymmetric market reaction to the bad and good news to be *more pronounced* for high litigation risk firms because these firms have the strongest incentives to release bad news early. However, the data do not support this prediction. In fact, our cross-sectional tests point to the opposite, that is, the asymmetry is *less pronounced* for high litigation risk firms, inconsistent with the competing hypothesis.

6.2 DIFFERENTIAL CREDIBILITY OF GOOD AND BAD NEWS MANAGEMENT FORECASTS

The second competing explanation is that bad news is more credible than good news (Jennings [1987], Hutton, Miller, and Skinner [2003], Rogers and Stocken [2005]). The credibility explanation argues that, because management has an incentive to embellish news, investors view voluntary good news disclosures with skepticism.[22] Specifically, the lack of credibility of good news forecasts might be because such forecasts are (1) overly optimistic (i.e., biased) and/or (2) less accurate, that is, greater uncertainty as manifested in the variability of forecast errors. One implication is that investors underreact to them (i.e., an incomplete reaction), which implies an upward drift in prices following the initial positive reaction to good news forecasts. Under the credibility hypothesis, bad news forecasts, in contrast, are expected to be less biased and more accurate, and are not expected to generate investor underreaction. We examine whether any of these implications of the credibility hypothesis are supported empirically.

First, if credibility is to be interpreted as investors discounting "embellished" good news disclosures, then we expect the forecast errors (i.e., actual minus management forecast) for good news disclosures to be negative.

---

[22] The regression results in Rogers and Stocken [2005] actually provide evidence *consistent* with the withholding hypothesis. Specifically, they find that the mean return (intercept) effect of management forecasts, after controlling for the apparent lack of credibility of good news forecasts, remains significantly negative at −2.9% (table 7). This is consistent with the withholding-bad-news hypothesis above and beyond the effects of credibility, which predicts a residual asymmetric price reaction (as captured in the intercept) to good and bad news forecasts.

However, an asymmetry in the forecast error *magnitudes* after management guidance is not observed either in our sample or in previous research (Richardson, Teoh, and Wysocki [2004]). We find a mean forecast error of 0.2% (i.e., wrong sign) for good news forecasts compared to −0.1% for bad news forecasts, with the difference being statistically insignificant. The median forecast errors for good and bad news management forecasts are 0.3% and 0.2% and not statistically different. Moreover, Rogers and Stocken [2005, p. 1252] report, contrary to their prediction, that they "do not find evidence that bad news is unbiased or even less biased than good news. In fact, mean predicted forecast errors and mean actual forecast errors are *lower* for good news than bad news forecasts".

Second, if lack of credibility is to be interpreted as greater uncertainty associated with good news forecasts, such uncertainty of the good news forecasts is idiosyncratic risk. Since investors can diversify much of the idiosyncratic credibility risk, the pricing implications of this risk are minimal. Therefore, a large differential price reaction of the magnitude we observe is unlikely to be due to asymmetric credibility. The greater-uncertainty argument also implies that the price reaction per unit of bad news should be smaller than the price reaction per unit of good news, which is not supported by our evidence in table 2 and table 4.[23]

We also empirically examine whether good news forecasts are more uncertain by measuring the standard deviation of the forecast errors. For our sample, the standard deviation of good news forecast errors is 6.1%, compared to 10.4% for bad news forecasts, with the difference significant at the 0.06 level. Similar results are obtained using absolute forecast errors. Rogers and Stocken [2005] also find that good news management forecast errors are *less* variable than bad news forecast errors. This evidence is inconsistent with an uncertainty-based explanation for the credibility hypothesis.

Third, with respect to the stock price behavior surrounding management forecasts, we study several implications of the credibility hypothesis. We begin with returns leading up to and including the announcement of management forecasts. If differential credibility is a plausible explanation for our results, then we should see an asymmetry in the market reaction to good news and bad news over *both* the short window and the long window (the period leading up to and including the announcement). The cumulative return for good news forecasts should be lower than that for bad news forecasts because, under the credibility hypothesis, the price reaction to good news forecasts is incomplete. However, we do not find such evidence. In fact, figure 2 shows that the three-month cumulative price reactions up to and including the announcement of good and bad news are similar in magnitude. This is inconsistent with the good news forecasts being less credible. On the other hand, the stock return behavior (symmetric over the long-window and

[23] Bayesian belief revision per unit of a noisy piece of information is less than that in response to one unit of precise news (Holthausen and Verrecchia [1988]).

asymmetric over the short-window announcement period) is consistent with managers withholding bad news. The returns following management forecasts do not show any drift, let alone differential drift, following good news forecasts versus bad news forecasts (Rogers and Stocken [2005, p. 1254]).

Finally, our empirical results also hold for the dividend change sample, where "credibility" concerns are not as applicable. Dividend payouts are concrete actions by managers that require board approval and are less likely to suffer from credibility issues.

6.3 DIFFERENTIAL INFORMATION IN DIVIDEND INCREASES VERSUS DECREASES

The third competing explanation relates to the differential information in the current dividend change about (1) future dividend changes, that is, persistence of dividends, and (2) future earnings. The premise here is that dividend decreases signal to the market more persistent declines in future dividends and/or more adverse future earnings performance. The results described below show that (1) dividend increases, not decreases, are more persistent and (2) future earnings information contained in dividend decreases is not as strong as that in dividend increases. This latter result is also extensively documented in the literature. Overall, the results do not support the competing explanation.

6.3.1. Persistence of Dividends. If the good news contained in dividend increases is less persistent than the bad news in dividend decreases, it might explain the differential stock price reactions. The earnings response coefficient literature shows that stock price reaction to earnings news increases in its persistence (Collins and Kothari [1989]). The same logic applies to dividend changes. To test for differential persistence of dividend increases and decreases, we examine the persistence of dividend changes for the overall population of firms and for our subsamples of firms that experience dividend changes in year t. In table 7, we report mean and median dividend

TABLE 7

Evidence on the Differential Persistence of Dividend Changes

Evidence on $Divchg(t+1)$ and $Divchg(t+2)$

		$Divchg(t+1)$			$Divchg(t+2)$		
	# Obs.	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.
Unconditional tests: overall sample 5,924		0.010	0.000	0.229	0.010	0.000	0.233
Conditional tests:							
$Divchg(t) < 0$	1,201	0.005	0.000	0.282	0.010	0.000	0.241
$Divchg(t) > 0$	5,723	0.010	0.000	0.221	0.010	0.000	0.237

This sample consists of 6,924 dividend change observations between the years 1962 and 2004, including 5,723 positive dividend changes and 1,201 negative dividend changes. The sample size decreases from 7,044 to 6,924 due to the data requirements for future dividend observations. The value of $Divchg(t+1)$ and $Divchg(t+2)$ are the total percentage change in the stated dividend over the months 1–12 and months 13–24, respectively, following the previous dividend change in period t.

changes in the period $t+1$ for the overall population and for the subsamples of firms with dividend changes. We find that dividend increases are followed by positive changes in the next 12 months (mean change = 0.01, but median change = 0.00). However, this average change in year $t+1$ is not different from the overall population. Therefore, an announced dividend increase tells us little about future shocks to dividends beyond the population of firms.

On the other hand, dividend decreases tend to revert. Specifically, dividend cuts in year t are followed, on average, by positive dividend changes in year $t+1$ (although the positive dividend change is slightly lower than the overall population of firms). There is no difference in the mean expected dividend changes in year $t+2$ between firms that have positive versus negative dividend changes in year t. The evidence suggests that bad news is less persistent than good news. Therefore, if there is no leaking of the good news, there should be a *greater* stock price reaction to dividend increases. However, this is *not* observed in the data, indicating that managers tend to leak good news relative to bad news. Our long-window return evidence prior to these announcements also supports this interpretation (see fig. 1).

6.3.2. Future Earnings Changes. The competing explanation is that dividend increases *follow* good earnings and stock price performance, whereas management uses dividend decreases to signal impending bad earnings performance. Therefore, dividend decreases are accompanied by larger stock price declines compared to dividend increases. We study earnings performance following dividend changes. Table 8 reports one-year earnings (defined as the sum of four quarterly earnings) following a dividend change minus one-year earnings before the dividend change. We find that the percentage increase in earnings following dividend increases averages 1.35% compared to a decline of −0.61% for dividend decreases. Thus, the asymmetry in the earnings performance is exactly the opposite of that predicted under this competing explanation. Notwithstanding the larger average earnings increase following dividend increases, the stock price reaction to dividend increases is smaller, consistent with management leaking good news ahead of the announcement. In contrast, the larger negative stock price reaction to dividend decreases, combined with the lack of a large subsequent earnings decline, suggests that management withholds bad news until the announcement. Again, this interpretation is reinforced by the cumulative abnormal returns graphed in figure 1.

We are not the first to examine earnings performance surrounding dividend changes. An extensive literature, including Watts [1973], Healy and Palepu [1988], and Grullon et al. [2005], examines earnings changes around dividend changes as a test of the dividend signaling theories (Bhattacharya [1979], Miller and Rock [1985], among others). The principal conclusions emerging from the literature are: (1) earnings performance improves following dividend increases (Healy and Palepu [1988]), (2) dividend decreases do not forecast an earnings decrease, but there is some indication of superior earnings performance following dividend

TABLE 8

Change in Annualized Earnings Following Dividend Change Announcements

Sample	*EarningsChange* = Change in Annualized Earnings from Before to After Dividend Change (Scaled by Lagged Total Assets) Mean (Median)	"Abnormal Earnings Change" Relative to Benchmark Sample = *EarningsChange* – $EarningsChange_{BenchmarkSample}$ Mean (Median)
Benchmark sample (includes quarters with negative, positive, and no change in dividends) ($N = 187{,}854$)	0.03%* (0.48%*)	–
Negative dividend change sample ($N = 1{,}116$)	−0.61%* (−0.05%)	−0.64%* (−0.53%*)
Positive dividend change sample ($N = 5{,}367$)	1.35%* (1.12%*)	1.32%* (0.64%*)

The dividend change sample consists of 6,483 dividend change announcements between 1970 and 2004. The sample size decreases from 7,044 to 6,483 because firms in this sample must have at least four consecutive quarters of quarterly earnings *both* before and after the dividend announcement date *and* have *Total Assets* data reported the year before the dividend announcement. There are 5,367 positive dividend changes and 1,116 negative dividend changes). *EarningsBefore* = ($\Sigma_{q=-4\,\text{to}\,-1}$ *Quarterly Earnings*$_q$)/(*Total Assets*$_{q=-4}$) and *EarningsAfter* = ($\Sigma_{q=+1\,\text{to}\,+4}$ *Quarterly Earnings*$_q$)/(*Total Assets*$_{q=-4}$), where q refers to the fiscal quarter *relative* to the dividend announcement date. *EarningsChange* = (*EarningsBefore* − *EarningsAfter*).

The "benchmark sample" consists of a sample of firm-quarter observations of dividend-paying firms that experience no change in dividends in the previous year, and that have at least eight consecutive quarters of quarterly earnings and have *Total Assets* data reported at the beginning of the sequence of eight consecutive quarters of quarterly earnings. *EarningsBefore* = ($\Sigma_{q=-4\,\text{to}\,-1}$ *Quarterly Earnings*$_q$)/(*Total Assets*$_{q=-4}$) and *EarningsAfter* = ($\Sigma_{q=+1\,\text{to}\,+4}$ *Quarterly Earnings*$_q$)/(*Total Assets*$_{q=-4}$). *EarningsChange* = (*EarningsBefore* − *EarningsAfter*). *indicates that the sample mean (median) is statistically different from zero with a p-value of less than 0.05.

decreases (Healy and Palepu [1988]), and (3) because of the asymmetry in the relation between dividend changes and subsequent earnings performance, for the overall sample, the forecasting power of dividend changes is either nonexistent or at best weak. This issue is the subject of debate in a series of papers by DeAngelo, DeAngelo, and Skinner [1996], Benartzi, Michaely, and Thaler [1997], Nissim and Ziv [2001], and Grullon et al. [2005]. In summary, our findings on future earnings performance following dividend increases versus dividend decreases are consistent with the prior literature. In the context of whether managers withhold bad news, this result contradicts the competing explanation.

6.4 TORPEDO EFFECT

Finally, the differential price reactions to good versus bad news might be consistent with the "torpedo effect" in the context of market reaction to growth firms failing to meet analyst expectations (Skinner and Sloan [2002]). In examining the asymmetric effect, we use a random sample of firms, not simply growth and value stocks, where the "torpedo effect" is documented. In unreported tests, we find that the asymmetric reactions

to good news and bad news announcements persist in both growth and value subsamples. Therefore, the phenomenon is not limited to growth stocks.

7. *Summary and Conclusions*

In this study, we examine whether managers delay the disclosure of bad news relative to good news. We infer the relative timeliness of bad and good news disclosures from the magnitude of stock price reactions to managers' *voluntary* disclosures of the news. If managers accumulate and withhold bad news up to a certain threshold, but privately leak and quickly reveal good news to investors, then we expect the magnitude of the negative stock price reaction to public disclosures of bad news to be greater than the magnitude of the positive stock price reaction to public disclosures of good news. Our evidence on the stock price reactions to good and bad news announcements suggests that management, *on average*, delays the release of bad news to investors.

Our empirical tests focus on two major corporate information events, dividend changes and managerial earnings forecasts. We find that the magnitude of the five-day market reaction to bad news announcements, such as negative dividend changes and pessimistic managerial forecasts, exceeds that to good news announcements. These results hold even after controlling for the magnitude of the news announcement. We then examine the stock returns prior to the news announcements. We find that a greater fraction of the news is impounded in stock prices prior to a good news disclosure relative to a bad news disclosure. This holds for both the dividend change sample and the management forecast sample. This pattern indicates that good news tends to be leaked to the market, whereas managers are successful in withholding much of the bad news from investors until it becomes inevitable that the bad news will be released.

In addition, we find evidence that the asymmetric market reactions to good versus bad news vary predictably across firms depending on managers' incentives and opportunities to withhold bad news. In particular, we find that the asymmetric market reaction to good versus bad news declines after the passage of Reg FD. This suggests that Reg FD, which arguably constrains managers' opportunities to selectively leak information before public disclosures, makes the playing field a little more level with respect to good and bad news disclosures. However, our overall evidence suggests that managerial incentives to withhold bad news dominate managerial disclosure behavior and, *on average,* lead managers to withhold bad news and leak good news early.

REFERENCES

ABOODY, D., AND R. KASZNIK. "CEO Stock Option Awards and the Timing of Corporate Voluntary Disclosures." *Journal of Accounting & Economics* 29 (2000): 73–100.

ANILOWSKI, C.; M. FENG; AND D. SKINNER. "Is Guidance a Macro Factor? The Nature and Information Content of Aggregate Earnings Guidance." *Journal of Accounting & Economics* 44 (2007): 36–63.

BAGINSKI, S.; J. HASSELL; AND M. KIMBROUGH. "The Effect of Legal Environment on Voluntary Disclosure: Evidence from Management Earnings Forecasts Issued in U.S. and Canadian Markets." *The Accounting Review* 77 (2002): 25–50.

BALL, R.; S. KOTHARI; AND A. ROBIN. "The Effect of Institutional Factors on Properties of Accounting Earnings." *Journal of Accounting & Economics* 29 (2000): 1–51.

BASU, S. "The Conservatism Principle and the Asymmetric Timeliness of Earnings." *Journal of Accounting & Economics* 24 (1997): 3–37.

BENARTZI, S.; R. MICHAELY; AND R. THALER. "Do Dividends Signal the Future or the Past?" *Journal of Finance* 52 (1997): 1007–34.

BERGMAN, N., AND S. ROYCHOWDHURY. "Influencing Limits to Arbitrage: Corporate Disclosure in Inefficient Markets." Unpublished paper, Massachusetts Institute of Technology, 2006.

BERGSTRESSER, D., AND T. PHILLIPON. "CEO Incentives and Earnings Management." *Journal of Financial Economics* 80 (2006): 511–29.

BHATTACHARYA, S. "Imperfect Information, Dividend Policy, and the 'Bird in Hand' Fallacy." *Bell Journal of Economic and Management Science* 10 (1979): 259–70.

BURNS, N., AND S. KEDIA. "The Impact of Performance-Based Compensation on Misreporting." *Journal of Financial Economics* 79 (2006): 35–67.

CHARLTON, A. "Airbus Executive Defends Recent Stock Sale." *Associated Press* (June 16, 2006): D6.

CHENG, Q., AND T. WARFIELD. "Equity Incentives and Earnings Management." *The Accounting Review* 80 (2005): 441–76.

COLLINS, D., AND S. KOTHARI. "An Analysis of the Cross-Sectional and Intertemporal Determinants of Earnings Response Coefficients." *Journal of Accounting & Economics* 11 (1989): 143–81.

DEANGELO, H.; L. DEANGELO; AND D. SKINNER. "Reversal of Fortune: Dividend Policy and the Disappearance of Sustained Earnings Growth." *Journal of Financial Economics* 40 (1996): 341–71.

DEANGELO, L. "Managerial Competition, Information Costs, and Corporate Governance: The Use of Accounting Performance Measures in Proxy Contests." *Journal of Accounting & Economics* 10 (1988): 3–36.

DIAMOND, D. "Optimal Release of Information by Firms." *Journal of Finance* 40 (1985): 1071–94.

DIAMOND, D., AND R. VERRECCHIA. "Disclosure, Liquidity, and the Cost of Capital." *Journal of Finance* 46 (1991): 1325–59.

DIELMAN, T., AND H. OPPENHEIMER. "An Examination of Investor Behavior During Periods of Large Dividend Changes." *Journal of Financial and Quantitative Analysis* 19 (1984): 197–216.

DYE, R. "Disclosure of Nonproprietary Information." *Journal of Accounting Research* 23 (1985): 123–45.

FIELD, L.; M. LOWRY; AND S. SHU. "Does Disclosure Deter or Trigger Litigation?" *Journal of Accounting & Economics* 39 (2005): 487–507.

FRANCIS, J.; D. PHILBRICK; AND K. SCHIPPER. "Shareholder Litigation and Corporate Disclosure." *Journal of Accounting Research* 32 (1994): 137–64.

FRANKEL, R.; M. MCNICHOLS; AND G. WILSON. "Discretionary Disclosure and External Financing." *The Accounting Review* 70 (1995): 135–50.

GILSON, S. "Management Turnover and Financial Distress." *Journal of Financial Economics* 25 (1989): 241–62.

GLOSTEN, L., AND P. MILGROM. "Bid, Ask, and Transaction Prices in a Specialist Market with Heterogeneously Informed Traders." *Journal of Financial Economics* 14 (1985): 71–100.

GRAHAM, J.; C. HARVEY; AND S. RAJGOPAL. "The Economic Implications of Corporate Financial Reporting." *Journal of Accounting & Economics* 40 (2005): 3–73.

GRULLON, G.; R. MICHAELY; S. BENARTZI; AND R. THALER. "Dividend Changes Do Not Signal Changes in Future Profitability." *Journal of Business* 78 (2005): 1659–82.

HEALY, P., AND K. PALEPU. "Earnings Information Conveyed by Dividend Initiations and Omissions." *Journal of Financial Economics* 21 (1988): 149–75.

HEALY, P., AND K. PALEPU. "Information Asymmetry, Corporate Disclosure, and Capital Markets: A Review of the Empirical Disclosure Literature." *Journal of Accounting & Economics* 31 (2001): 405–40.

HERMALIN, B., AND M. WEISBACH. "Transparency and Corporate Governance." Unpublished paper, University of California at Berkeley, 2007.

HOLTHAUSEN, R., AND R. VERRECCHIA. "The effect of Sequential Information Releases on the Variance of Price Changes in an Intemporal Multi-Asset Market." *Journal of Accounting Research* 26 (1988): 82–106.

HUTTON, A.; G. MILLER; AND D. SKINNER. "The Role of Supplementary Statements with Management Earnings Forecasts." *Journal of Accounting Research* 41 (2003): 867–90.

JENNINGS, R. "Unsystematic Security Price Movements, Management Earnings Forecasts, and Revisions in Consensus Analyst Earnings Forecasts." *Journal of Accounting Research* 25 (1987): 90–110.

JENSEN, M. "Agency Costs of Overvalued Equity." *Financial Management* 34 (2005): 5–19.

KASZNIK, R., AND B. LEV. "To Warn or Not to Warn: Management Disclosures in the Face of an Earnings Surprise." *The Accounting Review* 70 (1995): 113–34.

KIM, O. "Discussion of the Role of Manager's Human Capital in Discretionary Disclosure." *Journal of Accounting Research* 37 (Supplement 1999): 183–5.

KOTHARI, S.; E. LOUTSKINA; AND V. NIKOLAEV. "Agency Theory of Overvalued Equity as an Explanation for the Accrual Anomaly." Unpublished paper, MIT Sloan School of Management, 2006.

LANG, M., AND R. LUNDHOLM. "Voluntary Disclosure During Equity Offerings: Reducing Information Asymmetry or Hyping the Stock?" *Contemporary Accounting Research* 17 (2000): 623–63.

MCNICHOLS, M. "A Comparison of Skewness of Stock Return Distributions at Earnings and Non-Earnings Announcement Dates." *Journal of Accounting & Economics* 10 (1988): 239–73.

MILLER, G. "Earnings Performance and Discretionary Disclosure." *Journal of Accounting Research* 40 (2002): 173–204.

MILLER, M., AND K. ROCK. "Dividend Policy Under Asymmetric Information." *Journal of Finance* 40 (1985): 1031–51.

NAGAR, V. "The Role of Manager's Human Capital in Discretionary Disclosure." *Journal of Accounting Research* 37 (Supplement 1999): 167–81.

NAGAR, V.; D. NANDA; AND P. WYSOCKI. "Discretionary Disclosure and Stock-Based Incentives." *Journal of Accounting & Economics* 34 (2003): 283–309.

NISSIM, D., AND A. ZIV. "Dividend Changes and Future Profitability." *Journal of Finance* 56 (2001): 2111–33.

RICHARDSON, S.; S. TEOH; AND P. WYSOCKI. "The Walk-Down to Beatable Analyst Forecasts: The Role of Equity Issuance and Insider Trading Incentives." *Contemporary Accounting Research* 21 (2004): 885–924.

ROGERS, J., AND P. STOCKEN. "Credibility of Management Forecasts." *The Accounting Review* 80 (2005): 1233–60.

SKINNER, D. "Why Firms Voluntarily Disclose Bad News?" *Journal of Accounting Research* 32 (1994): 38–61.

SKINNER, D. "Earnings Disclosures and Stockholder Lawsuits." *Journal of Accounting & Economics* 23 (1997): 249–83.

SKINNER, D., AND R. SLOAN. "Earnings Surprises, Growth Expectations, and Stock Returns or Don't Let an Earnings Torpedo Sink Your Portfolio." *Review of Accounting Studies* 7 (2002): 289–312.

SLETTEN, E. "The Effect of Stock Price on Discretionary Disclosure." Unpublished paper, Northwestern University, 2007.

SOFFER, L.; R. THIAGARAJAN; AND B. WALTHER. "Earnings Preannouncement Strategies." *Review of Accounting Studies* 5 (2000): 5–26.

VERRECCHIA, R. "Discretionary Disclosure." *Journal of Accounting & Economics* 5 (1983): 365–80.
VERRECCHIA, R. "Discretionary Disclosure and Information Quality." *Journal of Accounting & Economics* 12 (1990): 179–94.
VERRECCHIA, R. "Essays on Disclosure." *Journal of Accounting & Economics* 32 (2001): 97–180.
WATTS, R. "The Information Content of Dividends." *Journal of Business* 46 (1973): 191–211.
WATTS, R. "Conservatism in Accounting Part I: Explanations and Implications." *Accounting Horizons* 17 (2003a): 207–21.
WATTS, R. "Conservatism in Accounting Part II: Evidence and Research Opportunities." *Accounting Horizons* 17 (2003b): 287–301.
WEISBACH, M. "Outside Directors and CEO Turnover." *Journal of Financial Economics* 20 (1988): 431–60.
YERMACK, D. "Good Timing: CEO Stock Option Awards and Company News Announcements." *Journal of Finance* 52 (1997): 449–76.
ZMIJEWSKI, M. "Methodological Issues Related to the Estimation of Financial Distress Prediction Models." *Journal of Accounting Research* 22 (1984): 59–82.