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Review of Accounting Studies

ISSN 1380-6653

Volume 16

Number 1

Rev Account Stud (2010)

16:183-217

DOI 10.1007/s11142-010-9139-

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Review of Accounting Studies

Volume 16 · Number 1 · March 2011

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Do acquirers disclose good news or withhold bad news when they finance their acquisitions using equity?

Rui Ge · Clive Lennox

Published online: 3 December 2010
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Abstract Companies that use their own stock to finance acquisitions have incentives to increase their market values prior to the acquisition. This study examines whether such companies mislead investors by issuing overly optimistic forecasts of future earnings (“deception by commission”) or by withholding bad news about future earnings (“deception by omission”). We compare the management forecasts of acquiring firms in a pre-acquisition period (days -90 to -30 before the acquisition announcement) and a post-acquisition period (days $+30$ to $+90$ after the acquisition is completed). We show that, when acquisitions are financed using stock, companies are not more likely to issue overly optimistic earnings forecasts during the pre-acquisition period compared with the post-acquisition period. However, these same acquirers are more likely to withhold impending bad news about future earnings. Consistent with litigation having an asymmetric effect on disclosure incentives, our findings suggest that deception by omission occurs more often than deception by commission.

Keywords Disclosure · Deception · Acquisitions · Management forecasts

JEL Classification D21 · D83 · M41

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I have not lied to them, because I had not undertaken to express my mind (Immanuel Kant, 1724–1804).

1 Introduction

To deceive by omission is to remain silent and thereby withhold from someone else an important piece of information. The silence is deceptive in that it is used to manipulate someone into acting in a way that benefits the person who withheld the information. In contrast, a deception by commission involves the manipulation of a person's beliefs by explicitly giving misleading or biased information. In this paper, it is argued that, when companies have incentives to deceive investors, they are more likely to mislead them through acts of omission than through acts of commission. This is because an omission can occur when the information sender has no news to report (Dye 1985; Jung and Kwon 1988) rather than because she is attempting to conceal her private information. Thus omissions often result from ignorance, and ignorance can be used in court to defend the absence of a disclosure. In contrast, it is relatively difficult for an information sender to defend a misleading explicit assertion by claiming to have been ignorant. We therefore posit that, when companies mislead investors, they do so by withholding information rather than by explicitly issuing biased disclosures.

To isolate a setting in which managers have incentives to mislead investors, we focus on the situation where an acquisition is financed using the company's stock. In a stock swap acquisition, the cost of the purchase is inversely proportional to the acquirer's stock price. Consequently, the acquirer in a stock swap purchase has strong incentives to boost its market valuation before the acquisition takes place (Erickson and Wang 1999; Louis 2004; Botsari and Meeks 2008). The stock swap acquirer can temporarily increase its market value by disclosing overly favorable earnings news (an act of commission). Alternatively, the stock swap acquirer can sustain an over inflated market value by remaining silent about impending bad news (an omission). The objective of this study is to examine whether companies' disclosure strategies are more likely to reflect acts of commission or omission.

We argue that the acquirer's incentives to disclose versus withhold information are asymmetric because the issuance of an overly optimistic forecast increases the risk of litigation. Gong et al. (2008) note that acquirers often face lawsuits after stock-for-stock mergers and that "the most common complaint in these lawsuits is that managers have misguided investors by *issuing* false and misleading statements" (that is, commission). In contrast, it is relatively uncommon for the managers of acquiring companies to be sued for *failing to issue* statements about impending bad news (that is, omission). This asymmetry in litigation risk arises because it is difficult for a plaintiff to prove that managers were aware of the impending bad news or that managers were deliberately withholding the news from the market.

Since it is relatively difficult for outsiders to identify the motive for a manager's silence, we expect that withholding bad news is a more attractive option for a stock swap acquirer seeking to sustain an over inflated market value. Specifically, we predict that stock swap acquirers withhold bad news about future earnings during

the period before the merger, with this information coming to light only after the merger is completed. In contrast, the issuance of an overly optimistic forecast about future earnings would be relatively unattractive because hyping the company's stock could be regarded as willfully misleading. We therefore expect that stock swap acquirers have relatively weak incentives to issue overly favorable forecasts about future earnings before the acquisitions.

In a nutshell, we argue that stock swap acquirers have asymmetric incentives with respect to remaining silent about future bad news versus hyping the stock by disclosing overly favorable news. We test this argument by comparing the earnings guidance of acquiring companies in the pre-acquisition period (days -90 to -30 before the acquisition is announced) and the post-acquisition period (days $+30$ to $+90$ after the acquisition is completed).¹ Our testing strategy uses a differences-in-differences research design, in which we examine the changes in forecasting behavior during these pre- and post-acquisition periods. We then compare the changes in forecasting behavior between a treatment sample of stock swap acquirers, which have incentives to over inflate their stock prices, and a control sample of acquisitions that are financed with cash (henceforth cash acquisitions). Our treatment group comprises 951 stock swap acquisitions in the period from 1995 to 2006, while our control sample comprises 1,835 cash acquisitions during the same timeframe.²

To identify whether stock swap acquirers issue earnings guidance strategically, we control directly for the forecasts that managers would issue on average if they were forecasting future reported earnings without bias. This is important because managers often issue forecasts in order to move investors' expectations towards future reported earnings rather than because they are attempting to mislead investors (Ajinkya and Gift 1984). Specifically, we control for the difference between the prevailing analyst forecast and future reported earnings (that is, the analyst forecast error). After controlling for this benign motive for issuing earnings forecasts, we expect that stock swap acquirers withhold bad news by refusing to issue unfavorable management forecasts during the pre-acquisition period. Likewise, we test whether, during the same pre-announcement window, stock swap acquirers strategically issue earnings forecasts that are more favorable than the news that will be contained in the future earnings announcement.

We find strong evidence that the stock swap acquirers withhold bad news during the pre-acquisition period by failing to issue unfavorable management forecasts. These acts of omission are consistent with our prediction that stock swap acquirers are reluctant to disclose bad news because they wish to maintain high stock market valuations. In contrast, we find that the stock swap acquirers are not more inclined to

¹ Our study is different from Francis et al. (1994) and Skinner (1997), who debate whether the timely disclosure of bad news reduces or increases the costs of litigation. Unlike those studies, we argue that it is more costly for a manager to explicitly over hype the stock than to silently delay the revelation of bad news.

² Our control sample does not include non-acquiring companies because such companies have very different characteristics from those of acquirers (Mitchell and Mulherin 1996; Andrade et al. 2001; Malmendier and Tate 2008). We follow Erickson and Wang (1999) and Louis (2004) who use cash acquirers rather than non-acquirers as the control sample.

issue overly favorable management forecasts during the pre-acquisition period. Thus, as we expected, the evidence suggests that the disclosure strategies of stock swap acquirers are asymmetric: these companies are prepared to remain silent about impending bad news, but they are not inclined to boost their market valuations by issuing overly favorable earnings forecasts.

We perform several tests to ensure that our conclusions are not driven by endogeneity problems associated with the acquirer's choice of financing. We also demonstrate that the results hold after partitioning the subsamples by the extent of income-increasing earnings management, which is an alternative tool that stock swap acquirers can use to boost their stock prices (Erickson and Wang 1999; Louis 2004; Botsari and Meeks 2008). Finally, we provide evidence from cumulative abnormal returns that stock swap acquirers underperform the market after they withhold bad news from investors. This involves providing triangulating evidence that stock swap acquirers maintain over inflated stock prices by remaining silent about impending bad news, and investors only learn about the bad news after the acquisitions are announced.

Stock-financed acquisitions can be viewed as two simultaneous transactions: an acquisition and an equity issuance. Managers have stronger incentives to finance their acquisitions by issuing equity when they believe that their companies are over-valued (Myers and Majluf 1984; Shleifer and Vishny 2003). Prior studies consider whether these over-valuations are attributable to the strategic behavior of companies. For example, a stock swap acquirer can inflate its market value prior to the acquisition date by manipulating its reported earnings in an upwards direction (Erickson and Wang 1999; Louis 2004; Botsari and Meeks 2008). An alternative scenario is that the company selectively times its disclosure of bad news in order to avoid a fall in its market valuation prior to the stock swap acquisition. Specifically, a company that knows it is overvalued has an incentive to withhold bad news before the acquisition date and to release this news only after the stock swap acquisition is completed.

Controlling for the news that is released on the earnings announcement date immediately following the completion of the acquisition, this study shows that the bad news about future earnings is more likely to be withheld if the acquisition is financed using equity. On the other hand, our results indicate that stock swap acquirers do not boost their market valuations by strategically issuing overly favorable forecasts about future earnings. This asymmetry in disclosure strategies suggests that companies prefer to remain silent about impending bad news rather than issue overly favorable earnings forecasts. More broadly, our findings are consistent with theoretical models in which remaining silent does not perfectly signal management's intent to hide bad news from investors (Verrecchia 1983; Dye 1985; Jung and Kwon 1988).

This research contributes to the literature in two ways. First, it extends the literature on voluntary disclosure by comparing whether companies are more likely to withhold bad news or over exaggerate good news. Prior studies find that managers disclose information strategically for economic gain (Lang and Lundholm 2000; Aboody and Kasznik 2000; Cheng and Lo 2006; Ertimur et al. 2007; Brockman et al. 2008). However, the extant literature does not explicitly analyze the asymmetry in managers' incentives to withhold or disclose earnings news. Our findings suggest

that the decision to withhold bad news is fundamentally different from the decision to exaggerate good news when companies face high litigation risk.

Second, this study extends prior work on managerial behavior surrounding corporate acquisitions. In recent years, an increasing number of acquisitions have been financed using stock (Andrade et al. 2001; Moeller et al. 2005), but there is only limited evidence on how this form of financing affects acquirers' behavior. Prior studies find evidence of income-increasing earnings management during the period prior to an acquisition financed using stock (Erickson and Wang 1999; Louis 2004; Botsari and Meeks 2008). Our study complements this evidence by examining managers' earnings forecasts rather than their mandatory earnings reports. Since earnings forecasts are voluntary, managers are free to remain silent about impending bad news before the earnings announcement date. Our findings indicate that this silence is important in explaining how companies maintain an overvalued stock price.

Our analysis is closely related with concurrent and independent research by Brockman and Martin (2008), who conclude that stock swap acquirers release more good news (less bad news) before the acquisition. However, there is one important difference between their study and ours. Their dependent variable takes the value one (zero) if the acquirer issues a good news (bad news) earnings forecast. Accordingly, they are measuring the relative frequency with which companies disclose good or bad news. Unlike Brockman and Martin (2008), we consider three possible disclosure choices by the acquirer: 1) disclose good news, 2) disclose bad news, or 3) do not disclose. The Brockman and Martin (2008) study considers the first two choices, but not the third, so it cannot shed light on whether acquirers remain silent about bad news. In comparison, we identify whether stock swap acquirers boost their stock prices by disclosing good news *or* they achieve the same goal by withholding bad news. By accounting for the option not to disclose, we show that stock swap acquirers maintain over inflated stock prices by withholding bad news, but they do *not* boost their stock prices by issuing over inflated earnings guidance. This asymmetry in disclosure behavior is not examined in Brockman and Martin (2008) since they consider only the *relative* frequency with which companies issue good and bad news earnings forecasts.

The rest of the paper is as follows. Section 2 develops the hypotheses and describes the research design. Section 3 outlines the sample. Section 4 presents the main results. Section 5 provides robustness checks for endogeneity, examines the role of earnings management, and provides evidence on the long-run stock return performance of acquiring companies. Section 6 concludes.

2 Hypothesis development and research design

2.1 Strategically withholding bad news

In a stock swap acquisition, the acquiring company exchanges its stock in return for the stock of the target company. The exchange ratio determines how many shares need to be exchanged, and it is influenced by either the actual stock price or the appraised stock price of the acquirer. The higher the (actual or appraised) stock

price, the fewer shares need to be issued by the acquirer in order to purchase the target. In addition to reducing the cost of purchasing the target, stock swap acquirers have incentives to boost their market valuations in order to reduce the dilution of their reported earnings per share and to reduce the dilution of incumbent shareholders' voting power (Erickson and Wang 1999). This is true even if the exchange ratio is based on the appraised stock price, since the actual stock price is an important benchmark used in calculating the appraised price.

Several studies document that managers' explicit disclosures are strategic. Lang and Lundholm (2000) find that companies increase their disclosure activity before seasoned equity offerings in order to hype their stock prices. However, they also show that there is no increase in forward-looking disclosures prior to seasoned equity offerings because this is expressly discouraged by securities law. Aboody and Kasznik (2000) report that managers disclose bad news around stock option awards in order to depress the stock price, which enables them to purchase stock at a lower cost. Similarly, Cheng and Lo (2006) demonstrate that managers disclose more bad news before they purchase shares. Ertimur et al. (2007) find that IPO firms delay bad news disclosures and bias their forecasts optimistically during the period following the lockup expiration date, in order to maximize their stock prices at the time they sell their shares. Finally, Brockman et al. (2008) show that the frequency and magnitude of bad news (good news) disclosures are higher (lower) before companies repurchase their own shares. Stock swap acquisitions provide another situation in which managers have strong incentives to disclose or withhold information strategically. However, there is little evidence on whether strategic disclosure behavior exhibits asymmetry, which is the focus of our study.

The disclosure of lower-than-expected earnings tends to decrease the stock price. Therefore, the acquirers in stock swap acquisitions have incentives to withhold bad news prior to the acquisition date. After the acquisition, the stock swap acquirer has less incentive to maintain a high stock price. Therefore, any bad news is more likely to be released during the post-acquisition period (for example, on the subsequent earnings announcement date) rather than before the acquisition. Accordingly, an acquiring company has an incentive to withhold bad news prior to the acquisition date if the purchase is financed using the acquiring company's own stock.³

Several theoretical papers examine the strategic withholding of unfavorable information when outsiders have rational expectations about the companies' incentives to hide such information. Verrecchia (1983) provides a model in which companies choose not to disclose in order to conceal unfavorable private information and these nondisclosing companies are pooled with other companies that choose not to disclose due to a proprietary cost. This pooling implies that investors cannot perfectly infer whether a nondisclosing company is withholding bad news. In Dye (1985) and Jung and Kwon (1988), the companies that conceal unfavorable information are pooled with companies that do not disclose because they are not

³ A target company also has an incentive to disclose information strategically in order to get a higher payment from the acquirer. However, we do not investigate the target's disclosure strategy for two reasons. First, the majority of targets (79%) are not public companies and data are unavailable for them. Second, Erickson and Wang (1999) argue that an acquirer can identify its target and adjust its behavior accordingly whereas, by the time the acquirer initiates its bid, it is too late for the target to respond.

privately informed. An important implication of these models is that outsiders cannot determine whether a company keeps silent because it is trying to hide bad news. Thus, it is hard to hold the information sender accountable for her silence.

Stock swap acquirers have strong incentives to withhold unfavorable news prior to the acquisition date. Moreover, remaining silent does not constitute a reliable signal that the company is concealing bad news, given that there are alternative explanations for nondisclosure. We therefore expect that stock swap acquirers are unwilling to disclose bad news before the acquisition is announced. To test this idea, we compare the earnings forecasts issued by stock swap acquirers with those issued by cash acquirers during the pre-acquisition and post-acquisition periods.

H1 Compared with cash acquirers, stock swap acquirers are more likely to withhold bad news during the period before the acquisition than the period after.

2.2 Strategically disclosing good news

Prior studies find that stock swap acquirers inflate their stock values by managing their reported earnings upwards. Using the Jones model to identify earnings management, Erickson and Wang (1999) find that stock swap acquirers have significant positive discretionary accruals during the pre-acquisition period. Using a larger sample, Louis (2004) confirms that stock swap acquirers manage earnings upwards. However, he also documents a partial reversal in the stock price in the days leading up to the acquisition announcement, which suggests that investors can rationally infer that the good news disclosures are not fully credible. To the extent that investors can unravel such opportunistic disclosures of good news, the news would have a smaller positive impact on the stock price. This would mean that the market valuation benefit from issuing overly favorable earnings news is relatively small for the stock swap acquirers. On the other hand, there is a large market valuation benefit from these companies remaining silent about bad news because it is relatively difficult for outsiders to identify the reason for the company's silence.

When a company chooses not to disclose, it is difficult for uninformed parties to draw strong inferences about any private information held by the company. This is because the company may not have any information to disclose (Dye 1985; Jung and Kwon 1988) or because the absence of disclosure is attributable to proprietary costs (Verrecchia 1983). In either case, the nondisclosure outcome would not be a strong signal that the company is attempting to withhold bad news. Because there are multiple potential explanations for a company's decision to remain silent, it can be difficult for plaintiffs to prove that a company was opportunistically suppressing bad news in order to maintain an overvalued stock price.

Companies that finance acquisitions by issuing stock are governed by Sect. 11 of the Securities Act of 1933, under which a defendant company must prove that it did not issue an opportunistic statement that subsequently led to a decline in the stock price (Frankel et al. 1995; DuCharme et al. 2004). This strict legal regime makes it especially costly for stock swap acquirers to opportunistically disclose overly favorable news about earnings, which is easier to detect and be suited. Consistent with these arguments, it is rare for stock acquirers to be sued for failing to disclose

bad news prior to the acquisition date. Rather, stock acquirers are typically sued for opportunistically boosting their stock prices by falsely disclosing good news (Gong et al. 2008). The threat of litigation reduces the incentives of stock acquirers to over hype their stocks prior to the acquisition date.

The above legal framework also reflects the way in which society views deceptions through commission and omission. For example, the German philosopher Immanuel Kant has opined that an omission is less immoral than a commission because the person withholding the information is making no explicit assertion. Consistent with this moral reasoning and the legal environment that it reflects, the literatures in philosophy and psychology find that information senders prefer to withhold the truth than to tell explicit untruths (Chisholm and Feehan 1977; Spranca et al. 1991). Moreover, information recipients rely on the courts to punish deceptions by commission whereas they are generally expected to take steps to protect themselves from harmful omissions (Feinberg 1984; Spranca et al. 1991).

Although we expect that stock swap acquirers are more likely to withhold bad news than overstate good news, they could still have incentives to increase their market valuations by hyping their own stocks. This leads us to make the following hypothesis:

H2 Compared with cash acquirers, stock swap acquirers are more likely to issue overly optimistic earnings forecasts during the period before the acquisition than the period after.

2.3 Research design for H1

We test H1 using a difference-in-differences research design, which involves estimating the following equations:

$$MFBAD = \alpha_0 + \alpha_1 STOCK + \alpha_2 PRE + \alpha_3 STOCK \times PRE + \alpha_4 R(FE) + \alpha_5 SIZE + \alpha_6 R(MB) + u \quad (1)$$

$$MFNEWS^- = \beta_0 + \beta_1 STOCK + \beta_2 PRE + \beta_3 STOCK \times PRE + \beta_4 R(FE) + \beta_5 SIZE + \beta_6 R(MB) + u \quad (2)$$

Equation 1 investigates whether the stock swap acquirers are reluctant to issue a bad news earnings forecast, whereas Eq. 2 tests whether the stock swap acquirers disclose smaller magnitudes of bad news.

The *MFBAD* dependent variable in Eq. 1 takes the value one if the acquiring company issues a bad news earnings forecast, and zero otherwise. Following Noe (1999), Cheng and Lo (2006) and Brockman et al. (2008), we classify a management forecast as unfavorable (favorable) if the abnormal return in the 3-day window around the management forecast is negative (positive).⁴ In the case of

⁴ In untabulated tests, we find similar results if the management forecast is classified as bad (good) news when it is less (greater) than the consensus analyst forecast. Because it is difficult to compare qualitative management forecasts such as open-ended forecasts with consensus analyst forecasts, we instead use the abnormal return classification as this allows us to include qualitative management forecasts in the sample.

multiple management forecasts, we code *MFBAD* as equal to one if the sum of the 3-day abnormal return surrounding each management forecast date is negative (zero otherwise).⁵

The $MFNEWS^-$ dependent variable in Eq. 2 is a measure of the magnitude of the bad news disclosed by the company. *MFNEWS* equals the cumulative abnormal return during the 3-day window centered on the management forecast date. If multiple management forecasts are issued, the *MFNEWS* variable equals the cumulative abnormal return aggregated over each 3-day window. To focus specifically on bad news disclosures, $MFNEWS^-$ equals *MFNEWS* when *MFNEWS* is negative, and zero when no management forecast is issued. Since the $MFNEWS^-$ dependent variable is right-truncated at zero, the model in Eq. 2 is estimated using tobit regression rather than OLS.

The *STOCK* variable equals one if the acquisition is financed using stock, and zero if it is financed through cash. Thus our control sample comprises the companies that finance their acquisitions using cash. Prior studies suggest that acquiring managers tend to be more overconfident than the managers of non-acquirers (Roll 1986; Malmendier and Tate 2008). It is important to control for this because overconfident managers may irrationally ignore and therefore fail to disclose any prevailing bad news. Thus managerial overconfidence could result in acquirers withholding bad news. Importantly, managerial hubris would also apply to the cash acquirer sample since their managers are subject to overconfidence leading to their decisions to acquire. Therefore, the cash acquirer control sample allows us to control for the fact that the managers of acquiring companies tend to be overconfident. What is more, Malmendier and Tate (2008) show that the managers of cash acquirers are even more overconfident than the managers of stock swap acquirers. This is because overconfident managers perceive their companies as being undervalued and so they are less willing to finance their acquisitions using stock. This means that, because the cash acquirers form our control group, our results will be biased *against* finding that stock swap acquirers are more likely to withhold bad news from investors (H1).

The *PRE* variable in (1) and (2) equals one for the pre-acquisition period, and zero for the post-acquisition period. Under H1, the stock swap acquirers are less likely than the cash acquirers to disclose bad news before the acquisition date ($\alpha_3 < 0$). Also, under H1, we expect that the magnitude of any bad news disclosure is smaller for the stock swap acquirers during the pre-acquisition period ($\beta_3 > 0$). Note that we do not form a prediction for the sensitivity of bad news management forecasts to the method of financing during the post-acquisition period (α_1 and β_1). Similarly, we do not make a prediction as to the relative frequency and magnitude with which cash acquirers issue bad news forecasts during the pre- and post-acquisition periods (α_2 and β_2). Instead, we rely on a difference-in-differences research design because our treatment variable ($STOCK \times PRE$) compares the change in forecasting behavior between the stock acquirer sample and the cash

⁵ In untabulated tests, we instead code *MFBAD* as one when the number of bad news forecasts exceeds the number of good news forecasts, and the results are qualitatively the same. We also conduct a test in which *MFBAD* is coded one if at least one earnings forecast is bad news. Again, the results are robust to this research design choice.

acquirer sample during the pre-acquisition and post-acquisition periods. This difference-in-differences test helps to control for any unobservable company characteristics that do not change from the pre-acquisition period to the post-acquisition period.

Our prediction for H1 is based on the idea that the managers of stock swap acquirers knowingly withhold bad news from investors. Ultimately, it is not possible for us to conclusively prove scienter because it is infeasible to see into the minds of managers during the pre-acquisition period. In fact, if this were possible, it would be relatively easy for the court to prove that bad news forecasts were being deliberately withheld by managers. While we cannot directly observe managers' information sets during the pre-acquisition period, we attempt to control for their information by observing the news that the same managers report subsequent to the acquisition date. Specifically, our management forecast models include the analyst forecast error as an independent variable in order to control for the sign and magnitude of the upcoming earnings news. The analyst forecast error variable is important because it controls for the forecasts that managers would issue on average if they were issuing unbiased forecasts of future reported earnings. That is, we control for the forecasts that managers would issue if they do not disclose strategically. After controlling for the analyst forecast error, the remaining independent variables capture any strategic behavior in managers' forecasting choices.

The analyst forecast error (FE) during the pre-acquisition period (day -90 to -30) is defined to be the company's reported earnings minus the prevailing consensus analyst at day -90 . For the post-acquisition period (day $+30$ to $+90$), the analyst forecast error (FE) is measured using the prevailing consensus analyst forecast at day $+30$. Prior studies find that managers are more likely to issue earnings forecasts when there is a large gap between the prevailing analyst forecast and future reported earnings (Kasznik and Lev 1995; Lennox and Park 2006). We therefore expect that managers disclose more bad news when reported earnings will be further below the prevailing consensus ($\alpha_4 < 0$ and $\beta_4 > 0$).

Managers' earnings forecasts may also be influenced by future growth opportunities. We control for this using the market to book ratio (MB). We use rank transformations to deal with outliers and skewness in the FE and MB variables (Kane and Meade 1998; Zhang 2006).⁶ Specifically, we rank the annual observations of these variables and then divide the ranking by the number of observations for that year. The rank transformed variables are shown as $R(FE)$ and $R(MB)$ in Eqs. 1 and 2, and these variables are uniformly distributed between zero and one.

Finally, previous studies document that larger companies are more likely to issue voluntary disclosures (Lang and Lundholm 1993; Kasznik and Lev 1995; Frankel et al. 1995). We control for size using the log of the company's market value ($SIZE$) and expect $\alpha_5 > 0$ and $\beta_5 < 0$.

⁶ Our results are qualitatively the same if we instead winsorize or truncate the variables to control for outliers.

2.4 Research design for H2

We test H2 by estimating the following equations:

$$MFGOOD = \lambda_0 + \lambda_1 STOCK + \lambda_2 PRE + \lambda_3 STOCK \times PRE + \lambda_4 R(FE) + \lambda_5 SIZE + \lambda_6 R(MB) + u \quad (3)$$

$$MFNEWS^+ = \theta_0 + \theta_1 STOCK + \theta_2 PRE + \theta_3 STOCK \times PRE + \theta_4 R(FE) + \theta_5 SIZE + \theta_6 R(MB) + u \quad (4)$$

Equations (3) and (4) are similar to Eqs. 1 and 2 except that they investigate the disclosure of good news rather than bad news.

The *MFGOOD* variable in Eq. 3 takes the value one if the company issues a good news earnings forecast and zero otherwise, with the forecast being classified as good if the 3-day cumulative abnormal return is positive.⁷ The *MFNEWS*⁺ dependent variable in Eq. 4 measures the magnitude of the good news disclosed by the company. *MFNEWS*⁺ equals *MFNEWS* when *MFNEWS* is positive, and *MFNEWS*⁺ equals zero when no management forecast is issued. Like Eq. 2, we estimate Eq. 4 using tobit since the dependent variable is truncated at zero.

Under H2, the stock swap acquirers are more likely to issue a good news forecast before the acquisition date ($\lambda_3 > 0$) and the magnitude of the good news is expected to be greater during the pre-acquisition period ($\theta_3 > 0$). As in the model for bad news forecasts, we do not predict the signs of the coefficients on the *STOCK* and *PRE* variables.

We control for the magnitude of the analyst forecast error *R(FE)* because managers are more likely to disclose good news when reported earnings will be above the prevailing consensus ($\lambda_4 > 0$ and $\theta_4 > 0$). Once again, the *R(FE)* control variable ensures that we control for managers' nonstrategic forecast decisions.

The research designs in Eqs. 1–4 are different from that of Brockman and Martin (2008). In this study, we consider all three possible disclosure choices: 1) disclose good news, 2) disclose bad news, 3) no disclosure.⁸ In their study, the dependent variable equals one if the company discloses good news and zero if the company discloses bad news, implying that they measure the *relative* frequency of good news and bad news disclosures. Accordingly, they do not consider the case where a company withholds bad news by making no disclosure.

2.5 Time line for management forecasts and analyst forecasts

In order to clarify how the variables are measured, Fig. 1 illustrates a time line for management forecasts and analyst forecasts around the acquisition announcement date. E_1 is the acquirer's most recent annual earnings announced after the

⁷ For multiple management forecasts, we code *MFGOOD* as equal to one if the sum of the cumulative abnormal return is positive when aggregated over each three-day window (zero otherwise). In an untabulated test, we instead code *MFGOOD* as one when the number of good news forecasts exceeds the number of bad news forecasts or at least one forecast is good news. The results are qualitatively the same.

⁸ In an untabulated test, we also estimate multinomial logit models in order to analyze the three disclosure choices simultaneously. The results are qualitatively the same as those tabulated.

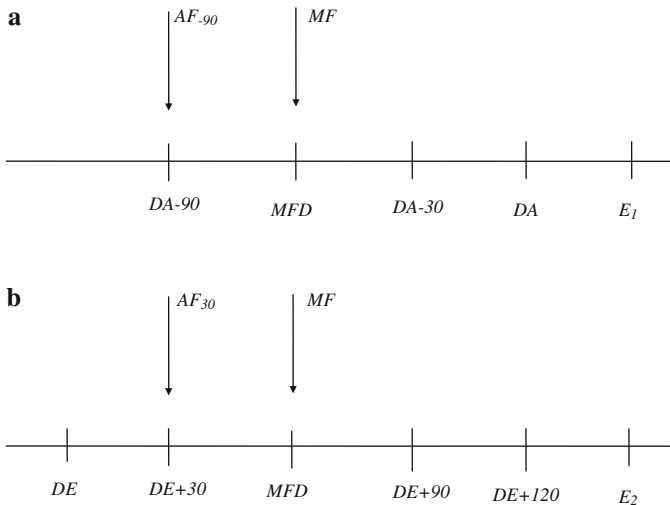


Fig. 1 Time line of management forecasts and analyst forecasts. **a** Pre acquisition, **b** post acquisition. DA is the acquisition announcement date. $DA-90$ is 90 days before the acquisition announcement date. $DA-30$ is 30 days before the acquisition announcement date. E_1 is the acquirer's annual earnings announced immediately after the acquisition announcement date. AF_{-90} is the consensus analyst forecast of annual earnings E_1 calculated 90 days before the acquisition announcement date. DE is the acquisition effective (completion) date. $DE+30$ is 30 days after the acquisition effective date. $DE+90$ is 90 days after the acquisition effective date. $DE+120$ is 120 days after the acquisition effective date. E_2 is the acquirer's most recent annual earnings announced more than 120 days after the acquisition effective date. AF_{30} is the consensus analyst forecast of annual earnings E_2 calculated 30 days after the acquisition effective date. MF is the management earnings forecast issued within the $[DA-90, DA-30]$ window or the $[DE+30, DE+90]$ window. MFD is the management forecast date

acquisition announcement date. AF_{-90} is the consensus analyst forecast of these earnings, calculated 90 days before the acquisition announcement date. The pre-acquisition window is defined to be the period from 90 days before the acquisition announcement date to 30 days before.⁹ To be comparable with the pre-acquisition window, we define the post-acquisition window as being the period from 30 days after the acquisition effective date to 90 days after. E_2 is the acquirer's most recent annual earnings announced more than 120 days after the acquisition effective date.¹⁰ This timeline ensures that the interval between AF_{-90} and E_1 is comparable to the interval between AF_{30} and E_2 . AF_{30} is the consensus analyst forecast of the E_2 earnings, calculated 30 days after the acquisition effective date. For each acquiring

⁹ The pre-acquisition window begins from 90 days before the acquisition announcement day because Erickson and Wang (1999) and Louis (2004) show that stock swap acquirers manage earnings during the quarter prior to the acquisition. Schwert (1996) and Louis (2004) find that acquisition news leaks out to the market about 1 month before the acquisition announcement, so the window for the forecast revision ends 30 days before the acquisition announcement date in order to avoid the information in the management forecast being contaminated by leakage of news about the acquisition. In a sensitivity test, we also use the acquisition announcement date as the window end day, and the results are qualitatively the same.

¹⁰ The Security Data Company dataset defines the effective date as the date when the entire transaction is completed and effective.

Table 1 Variable definitions

<i>SIZE</i>	Natural logarithm of the acquirer's market value of common equity at the end of the prior fiscal year
<i>MB</i>	Market-to-book value of common equity for the acquirer at the end of the prior fiscal year
<i>E₁</i>	The acquirer's most recent annual earnings per share announced after the acquisition announcement date
<i>E₂</i>	The acquirer's most recent annual earnings per share announced more than 120 days after the acquisition effective date
<i>AF₋₉₀</i>	The consensus analyst forecast of <i>E₁</i> , calculated 90 days before the acquisition announcement day
<i>AF₃₀</i>	The consensus analyst forecast of <i>E₂</i> , calculated 30 days after the acquisition effective day
<i>STOCK</i>	One if the acquisition is financed with stock, zero if the acquisition is financed with cash
<i>FE</i>	<i>E₁</i> minus <i>AF₋₉₀</i> scaled by the absolute value of actual earnings (pre-acquisition period); <i>E₂</i> minus <i>AF₃₀</i> scaled by the absolute value of actual earnings (post-acquisition period)
<i>PRE</i>	One for the pre-acquisition period (the [DA - 90, DA - 30] window); zero for the post-acquisition period (the [DE + 30, DE + 90] window)
<i>MFBAD</i>	One if the company issues a bad news earnings forecast within the pre-acquisition (post-acquisition) window, zero otherwise. A management forecast is classified as bad news if the abnormal return in the 3-day window [-1, 1] around the management forecast date is negative
<i>MFGOOD</i>	One if the company issues a good news earnings forecast within the pre-acquisition (post-acquisition) window, zero otherwise. A management forecast is classified as good news if the abnormal return in the 3-day window [-1, 1] around the management forecast date is positive
<i>MFNEWS</i>	The cumulative abnormal return during the 3-day window [-1, 1] centered around the management forecast date if only one management forecast is issued; the cumulative abnormal return aggregated over each 3-day window if more than one management forecast is issued
<i>MFNEWS⁻</i>	<i>MFNEWS</i> if <i>MFNEWS</i> < 0; zero if no management forecast is issued
<i>MFNEWS⁺</i>	<i>MFNEWS</i> if <i>MFNEWS</i> > 0; zero if no management forecast is issued
<i>MOM</i>	The acquirer's buy-and-hold return from month -6 to the most recent month-end at least 30 days before the acquisition announcement
<i>UECA</i>	Residual from the model of current accruals estimated in Louis (2004)
<i>ABRET1</i>	Cumulative abnormal return during the year following the acquisition announcement.
<i>UE(MFBAD)</i>	<i>MFBAD</i> during the pre-acquisition period minus the predicted probability of <i>MFBAD</i> , where the probability is estimated using a model of bad news earnings forecast issuance
<i>R(X)</i>	Rank transformation of variable <i>X</i> . Ranks are obtained by annually ranking observations and then dividing the ranking by the number of observations for that year

company, we investigate whether one or more earnings forecasts are issued by managers during these pre-acquisition and post-acquisition windows.

The definitions for each variable are summarized in Table 1.

3 Sample selection

The sample is constructed from the intersection of the Security Data Company (SDC), First Call Company Issued Guidelines, and I/B/E/S databases over the

period 1995–2006. We start in 1995 because this is when First Call began to comprehensively cover management forecasts. An acquisition is included in the sample if it satisfies the following criteria:

1. the acquisition was successfully completed;
2. the acquisition is either a pure stock swap or a pure cash purchase;¹¹
3. the acquirer's annual earnings announcement date is available in I/B/E/S;
4. the acquirer's reported earnings are available in I/B/E/S;
5. the acquirer's book value of common equity, stock price, and shares outstanding are available in COMPUSTAT;
6. the acquirer issues at least one management forecast within the period from 1 year before the acquisition announcement date to 1 year after the acquisition effective date. We impose this final restriction in order to exclude acquirers that have a consistent policy of not issuing management forecasts. (In untabulated tests, we find qualitatively similar results if these companies are included in the sample.)

The final sample comprises 951 stock swap acquisitions and 1,835 cash acquisitions. Panel A of Table 2 partitions the sample according to the Fama and French industry classifications. There is some evidence of industry clustering with more than one third of acquisitions occurring in the Business Equipment sector (the clustering exists for both stock swap acquisitions and the control group of cash purchases). Panel B shows the distribution of the sample by the year of the acquisition announcement. Compared with acquisitions financed using cash, the stock swap acquisitions are relatively more common during the period before 2002, which may be due to the bull market and the overvalued equity market at that time (Shleifer and Vishny 2003). To control for any industry and year effects, the multiple regressions include industry and year dummy variables.

4 Results

4.1 Univariate analysis of management forecasts

Panel A of Table 3 reports the frequency of management forecast issuance during the pre-acquisition and post-acquisition windows. For the stock swap acquirers, the frequency of a bad news forecast is just 9.3% during the pre-acquisition period compared with 16.0% during the post-acquisition period. The difference (6.7% = 16.0% minus 9.3%) is statistically significant at the 1% level (t-stat. = 4.44). Among the cash acquirers, the frequency of a bad news forecast is 20.0% during the pre-acquisition period and 19.8% during the post-acquisition period, with the difference (−0.2%) being statistically insignificant. When we compare the post-pre difference between stock swap acquirers and cash acquirers (that is, 6.7% vs. −0.2%), we find that the difference-in-differences test is statistically significant at

¹¹ In untabulated tests we find very similar results if we include in the sample the acquisitions that are financed using a mix of both equity and cash.

Table 2 Industry and year distribution of the acquiring companies

	Stock swaps		Cash purchases		Total	
	N	%	N	%	N	%
<i>Panel A: Sample distribution by industry (Fama and French 12 industry classifications)</i>						
Industry						
Consumer nondurables	15	0.54	126	4.52	141	5.06
Consumer durables	7	0.25	54	1.94	61	2.19
Manufacturing	45	1.62	246	8.83	291	10.45
Oil, gas, and coal extraction and products	17	0.61	31	1.11	48	1.72
Chemicals and allied products	8	0.29	44	1.58	52	1.87
Business equipment	417	14.97	494	17.73	911	32.70
Telephone and television transmission	18	0.65	44	1.58	62	2.23
Utilities	14	0.50	40	1.44	54	1.94
Wholesale, retail, and some services	65	2.33	187	6.71	252	9.05
Healthcare, medical equipment, and drugs	84	3.02	174	6.25	258	9.26
Finance	167	5.99	180	6.46	347	12.46
Other	94	3.37	215	7.72	309	11.09
Total	951	34.13	1,835	65.87	2,786	100
<i>Panel B: Sample distribution by year</i>						
Year						
1995	55	1.97	50	1.79	105	3.77
1996	94	3.37	90	3.23	184	6.60
1997	118	4.24	130	4.67	248	8.90
1998	140	5.03	168	6.03	308	11.06
1999	139	4.99	157	5.64	296	10.62
2000	161	5.78	151	5.42	312	11.20
2001	97	3.48	149	5.35	246	8.83
2002	46	1.65	200	7.18	246	8.83
2003	39	1.40	197	7.07	236	8.47
2004	33	1.18	213	7.65	246	8.83
2005	24	0.86	214	7.68	238	8.54
2006	5	0.18	116	4.16	121	4.34
Total	951	34.13	1,835	65.87	2,786	100

the 1% level (t-stat. = 3.82). This is consistent with hypothesis H1 that stock swap acquirers avoid issuing bad news forecasts during the pre-acquisition period. However, it is important to note that this univariate test does not control for the sign or magnitude of the future earnings news (that is, the analyst forecast error).

Panel B reports results for the magnitudes of the management forecast news (*MFNEWS*). Among the stock swap acquirers that do not issue favorable management forecasts, the mean value of *MFNEWS*⁻ is -0.010 during the pre-acquisition period compared with -0.024 during the post-acquisition period. The difference between these magnitudes (-0.014 = -0.024 minus -0.010) is

Table 3 Univariate results for the management forecast and financing variables

	Pre-acquisition period (frequency) (%)	Post-acquisition period (frequency) (%)	Test for difference (t-stat.)
<i>Panel A: News type</i>			
Stock swaps (<i>STOCK</i> = 1)			
<i>MFBAD</i>	9.3	16.0	4.44***
<i>MFGOOD</i>	10.2%	12.0	1.24
Cash purchases (<i>STOCK</i> = 0)			
<i>MFBAD</i>	20.0	19.8	-0.08
<i>MFGOOD</i>	15.5	19.7	3.30***
			Test for difference between stock swaps and cash purchases (t-stat)
Post-pre difference for <i>MFBAD</i>		3.82***	
Post-pre difference for <i>MFGOOD</i>		-0.62	
	Pre-acquisition period (mean of <i>MFNEWS</i>)	Post-acquisition period (mean of <i>MFNEWS</i>)	Test for difference (t-stat.)
<i>Panel B: Mean value of the news magnitude (MFNEWS)</i>			
Stock swaps (<i>STOCK</i> = 1)			
<i>MFNEWS</i> ⁻	-0.010	-0.024	-4.73***
<i>MFNEWS</i> ⁺	0.008	0.009	1.07
Cash purchases (<i>STOCK</i> = 0)			
<i>MFNEWS</i> ⁻	-0.019	-0.022	-1.50
<i>MFNEWS</i> ⁺	0.011	0.014	2.81***
			Test for difference between stock swaps and cash purchases (t-stat)
Post-pre difference for <i>MFNEWS</i> ⁻		-3.03***	
Post-pre difference for <i>MFNEWS</i> ⁺		-0.91	

See Fig. 1 for definitions of the pre-acquisition and post-acquisition windows

STOCK is one if the acquisition is financed with stock and zero if the acquisition is financed with cash. *MFBAD* is one if the company issues a bad news earnings forecast within the pre-acquisition (post-acquisition) window and zero otherwise. A management forecast is classified as bad news if the abnormal return in the 3-day window [-1, 1] around the management forecast date is negative. *MFGOOD* is one if the company issues a good news earnings forecast within the pre-acquisition (post-acquisition) window and zero otherwise. A management forecast is classified as good news if the abnormal return in the 3-day window [-1, 1] around the management forecast date is positive. *MFNEWS* is the cumulative abnormal return during the 3-day window [-1, 1] centered around the management forecast date if only one management forecast is issued or it is the cumulative abnormal return aggregated over each 3-day window if more than one management forecast is issued. *MFNEWS*⁻ equals *MFNEWS* if *MFNEWS* < 0 and zero if no management forecast is issued. *MFNEWS*⁺ equals *MFNEWS* if *MFNEWS* > 0 and zero if no management forecast is issued

***, **, * Denote significant at 1%, 5%, 10% levels (two-tail tests), respectively

statistically significant at the 1% level (t-stat. = -4.73). Comparing the change in the magnitude of the bad news to that of cash acquirers, the difference-in-differences test is also significant at the 1% level (t-stat. = -3.03). Again, these

results are consistent with H1 that stock swap acquirers disclose less bad news during the period prior to the acquisition.

Interestingly, the univariate results are not statistically significant for H2. Panel A shows that good news forecasts are issued by 10.2% (12.0%) of the stock swap acquirers during the pre-acquisition (post-acquisition) period. The difference in frequencies between these two periods is insignificant (t-stat. = 1.24). When this change in forecast frequency is compared between stock swap acquirers and cash acquirers, the difference-in-differences test is also found to be statistically insignificant (t-stat. = -0.62). Therefore, the results do not support the argument that stock swap acquirers issue more good news forecasts during the pre-acquisition period in order to boost their stock prices. Similarly, the results are insignificant in Panel B for the tests of the magnitude of the good news forecasts issued by acquiring companies.

Overall, the results in Table 3 indicate that stock swap acquirers are less likely to issue bad news forecasts prior to their acquisitions and any bad news that is disclosed is smaller in magnitude. Both results are consistent with the first hypothesis that stock swap acquirers withhold bad news during the pre-acquisition period. In contrast, we find no evidence that stock swap acquirers disclose relatively more good news during the pre-acquisition period, as predicted by the second hypothesis.

These univariate results do not control for the forecasts that managers would issue on average if they were attempting to issue unbiased forecasts of future earnings. We therefore turn to the multivariate analysis to control for the magnitude of the analyst forecast error and other independent variables that affect the forecasts that managers issue.

4.2 Multivariate results for the issuance of management forecasts

In the multivariate analysis, we control for the magnitude of the analyst forecast error ($R(FE)$), company size ($SIZE$), growth opportunities ($R(MB)$), industry effects, and year effects. Descriptive statistics for the control variables are reported in Table 4. The market values of the stock swap acquirers are higher than those of the cash acquirers, consistent with these companies being overvalued (t-stat. = 2.82). The stock swap acquirers also have higher market-to-book ratios ($R(MB)$), suggesting that the market perceives that these companies will have superior future growth opportunities (t-stat. = 14.56). However, the $R(FE)$ variable reveals no significant difference in the future earnings surprise between the stock swap acquirers and the cash acquirers. These descriptive statistics are consistent with the idea that stock swap acquirers are over-valued prior to the acquisition date.

The regression results are reported in Table 5. The estimation sample comprises 2,786 acquiring companies (951 are financed through stock while 1,835 are financed using cash), but each company has two observations, one relating to the pre-acquisition period and one for the post-acquisition period. Accordingly, there are 5,572 observations for the regression models. The two observations for each company are unlikely to be independent in the pre- and post-acquisition periods, and we adjust the standard errors for this time-series dependence by clustering on each

Table 4 Descriptive statistics and tests of differences in means for the control variables

	Median	Mean	SD	Minimum	Maximum
Panel A: Descriptive statistics					
<i>SIZE</i>	6.869	7.005	1.807	2.429	13.041
<i>MB</i>	2.818	4.971	60.158	-274.979	4,444.375
<i>FE</i>	-0.015	-0.714	6.236	-346.500	56.000
<i>R(MB)</i>	0.501	0.501	0.289	0.002	1
<i>R(FE)</i>	0.501	0.501	0.289	0.002	1
	Stock swaps (<i>STOCK</i> = 1)	Cash purchases (<i>STOCK</i> = 0)	Test for difference (t-stat.)		
Panel B: Differences in means					
<i>SIZE</i>	7.010	6.842		2.82***	
<i>R(MB)</i>	0.603	0.458		14.56***	
<i>R(FE)</i>	0.497	0.503		-0.38	

STOCK one if the acquisition is financed with stock, zero if the acquisition is financed with cash, *SIZE* natural logarithm of the acquirer's market value of common equity at the end of the prior fiscal year, *MB* market-to-book value of common equity for the acquirer at the end of prior fiscal year, *FE* E_1 minus AF_{-90} scaled by the absolute value of actual earnings (pre-acquisition period); E_2 minus AF_{30} scaled by the absolute value of actual earnings (post-acquisition period), E_1 the acquirer's most recent annual earnings per share announced after the acquisition announcement date, E_2 the acquirer's most recent annual earnings per share announced more than 120 days after the acquisition effective date, AF_{-90} the consensus analyst forecast of E_1 , calculated 90 days before the acquisition announcement day, AF_{30} the consensus analyst forecast of E_2 , calculated 30 days after the acquisition effective day, $R(X)$ rank transformation of variable X . Ranks are obtained by annually ranking observations and then dividing the ranking by the number of observations for that year

***, **, * Denote significant at 1%, 5%, 10% levels (two-tail tests), respectively

company (Petersen 2009). The $STOCK \times PRE$ interaction variable captures the difference in forecasting behavior between stock swap acquirers and cash purchase acquirers during the pre-acquisition period.

Panel A of Table 5 reports the results for the issuance and magnitude of bad news management forecasts (H1). Column (1) of Panel A presents the results for Eq. 1 where the dependent variable (*MFBAD*) indicates whether the acquirer issues a bad news earnings forecast. The $STOCK \times PRE$ coefficients are significantly negative for the models in Column (1). Consistent with H1, this means that stock swap acquirers are less likely than cash acquirers to issue unfavorable management forecasts during the pre-acquisition period.

Column (2) of Panel A shows the results where the dependent variable ($MFNEWS^-$) measures the magnitude of bad news. The coefficient of $STOCK \times PRE$ is found to be significantly positive (t-stats. = 3.33, 3.28). This implies that the magnitude of the bad news conveyed by the management forecast is significantly smaller during the pre-acquisition period when acquisitions are financed with stock. Overall, the results in Columns (1) and (2) strongly support our first hypothesis that the stock swap acquirers withhold bad news about future earnings until after the acquisitions have taken place.

Table 5 Models explaining the acquirer's issuance of management forecasts

	Predicted sign		Predicted sign	Magnitude of bad news (dependent variable = MFNEWS ⁻)	
	Eq. 1	Eq. 2		Model 3	Model 4
	Frequency of bad news (dependent variable = MFBAD)				
	Model 1		Model 2		
Panel A: Tests of H1					
$MFBAD = \alpha_0 + \alpha_1 STOCK + \alpha_2 PRE + \alpha_3 STOCK \times PRE + \alpha_4 R(FE) + \alpha_5 SIZE + \alpha_6 R(MB) + u$					
$MFNEWS^- = \beta_0 + \beta_1 STOCK + \beta_2 PRE + \beta_3 STOCK \times PRE + \beta_4 R(FE) + \beta_5 SIZE + \beta_6 R(MB) + u$					
<i>STOCK</i>	? -0.026 (-0.22)	-0.110 (-0.92)	?	0.001 (0.08)	0.011 (1.02)
<i>PRE</i>	? 0.066 (0.77)	0.069 (0.80)	?	0.004 (0.47)	0.004 (0.46)
<i>STOCK</i> × <i>PRE</i>	<i>H1</i> - -0.536*** (-3.22)	-0.529*** (-3.17)	<i>H1</i> +	0.052*** (3.33)	0.051*** (3.28)
<i>R(FE)</i>	- -1.352*** (-10.16)	-1.518*** (-10.78)	+	0.142*** (10.61)	0.154*** (11.15)
<i>SIZE</i>	+ 0.098*** (4.22)	0.098*** (4.22)	-		-0.008*** (-3.47)
<i>R(MB)</i>	? 0.444*** (3.03)	0.444*** (3.03)	?		-0.060*** (-4.19)
Year dummies	Yes	Yes		Yes	Yes
Industry dummies	Yes	Yes		Yes	Yes
N	5,572	5,572		4,715	4,715
Pseudo R ²	6.49%	7.36%		NA	NA

Table 5 continued

	Predicted sign	Eq. 3	Predicted sign		Eq. 4
		Frequency of good news (dependent variable = <i>MFGOOD</i>)	Model 1	Model 2	Model 3
Panel B: Tests of H2					
$MFGOOD = \lambda_0 + \lambda_1 STOCK + \lambda_2 PRE + \lambda_3 STOCK \times PRE + \lambda_4 R(FE) + \lambda_5 SIZE + \lambda_6 R(MB) + u$					
$MFNEWS^+ = \theta_0 + \theta_1 STOCK + \theta_2 PRE + \theta_3 STOCK \times PRE + \theta_4 R(FE) + \theta_5 SIZE + \theta_6 R(MB) + u$					
<i>STOCK</i>	?	-0.086 (-0.68)	-0.121 (-0.94)	?	-0.003 (-0.75)
<i>PRE</i>	?	-0.240*** (-2.73)	-0.235*** (-2.66)	?	-0.014*** (-2.84)
<i>STOCK</i> × <i>PRE</i>	H2 +	0.105 (0.60)	0.110 (0.63)	H2 +	0.002 (0.26)
<i>R(FE)</i>	+	1.216*** (8.76)	1.187*** (8.29)	+	0.062*** (7.65)
<i>SIZE</i>	+		0.106*** (4.09)	+	0.005*** (3.37)
<i>R(MB)</i>	?		0.086 (0.54)	?	0.011 (1.21)
Year dummies	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes
N		5,572	5,572	4,602	4,602
Pseudo R ²		9.30%	9.83%	NA	NA

The standard errors are adjusted for clustering on each company. See Table 2 for variable definitions. z values are reported in parentheses
 ***, **, * Denote significant at 1%, 5%, 10% levels (two-tail tests), respectively

The results for the control variables are as expected and are generally consistent with the prior literature on the determinants of management forecast issuance. The analyst forecast error ($R(FE)$) variable has significant negative coefficients in Column (1) and significant positive coefficients in Column (2). Therefore, companies are more likely to disclose bad news and they disclose more bad news when future reported earnings are further below the prevailing consensus analyst forecast. The positive coefficients on the company size ($SIZE$) variable in Column (1) and the negative coefficients in Column (2) indicate that large companies disclose relatively more bad news.

Panel B of Table 5 presents the results for the forecasts of good news about future earnings (H2). Column (1) of Panel B reports the results for Eq. 3 where the dependent variable (MF_{GOOD}) indicates whether the acquirer issues a good news forecast. Column (2) shows the results for Eq. 4 where the dependent variable (MF_{NEWS^+}) indicates the magnitude of the good news.

The $STOCK \times PRE$ coefficients are positive but insignificant for the good news models in Panel B. This result suggests that the stock swap acquirers are not more likely to issue good news forecasts during the pre-acquisition period and the magnitude of the good news conveyed by such forecasts is not greater. These findings suggest that stock swap acquirers do not typically issue overly favorable forecasts about future earnings during the pre-acquisition period, which is inconsistent with H2.

Results for the control variables are generally consistent with our expectations. The $R(FE)$ coefficients are significantly positive in Panel B, implying that companies are more likely to issue upward earnings guidance and the positive news is significantly greater in magnitude when the consensus is further below future reported earnings. Company size ($SIZE$) is also positively correlated with the issuance of favorable management forecasts. Finally, there are significant negative coefficients on the PRE variable, implying that acquirers disclose less good news during the pre-acquisition period than in the post-acquisition period.

Collectively, the regression results in Table 5 support the argument that stock swap acquirers withhold impending bad news about future earnings, as predicted by H1. However, we do not find that stock swap acquirers hype their stocks by issuing forecasts that are overly optimistic relative to future reported earnings.

5 Robustness checks and supplementary analysis

5.1 Self-selection of acquisition type

In our research design, the acquisition type variable ($STOCK$) is treated as exogenous. However, companies choose the financing methods for their acquisitions, implying that this financing variable is actually endogenous. This is not necessarily a problem in terms of endogeneity bias because we are not particularly interested in the coefficient on the $STOCK$ variable. Instead, we are primarily interested in the interaction variable, $STOCK \times PRE$. As long as any unobserved company characteristics are constant over time, our difference-in-differences

research design will ensure that the $STOCK \times PRE$ coefficient is unbiased, even if endogeneity causes bias for the main effect ($STOCK$). Controlling for such unobservable time-invariant company characteristics is an important strength of our research design.

Nevertheless, the difference-in-differences design does not necessarily avoid the problem of estimation bias since company characteristics could be changing between the pre- and post-acquisition periods, and such unobserved changes might influence the financing decision. To control for such bias, we adopt two approaches. First, we use matched propensity scores (Rosenbaum and Rubin 1983). Specifically, we construct a sub-sample of cash acquirers that are matched to the stock swap acquirers based on the predicted probability that the acquisition is financed using stock. Our second strategy to control for endogeneity is to estimate a Heckman model (Heckman 1979).

To create the matched propensity scores it is necessary to estimate a model that predicts whether the acquisition is more likely to be paid for using cash rather than stock. Martin (1996) predicts that acquirers are more likely to use stock if they have higher growth opportunities, less cash available, and bigger acquisition targets. We therefore control for the market-to-book ratio, the amount of cash on hand, and the size of the target. Oler (2008) further shows that stock swap acquirers have higher return momentum than nonstock acquirers. This momentum effect could mean that the acquiring companies select to use stock rather than cash in periods of abnormally strong performance. We therefore control for stock return momentum (MOM) in the model that explains the financing choice of acquirers.

$$STOCK = \gamma_0 + \gamma_1 R(MB) + \gamma_2 CASH + \gamma_3 TVAL + \gamma_4 MOM + u \quad (5)$$

The $STOCK$ variable is a dummy for the financing choice (that is, stock or cash). The $R(MB)$ variable is the rank transformation of the market-to-book ratio, which is a proxy for investment opportunities. $CASH$ is the acquirer's cash balance at the end of the fiscal year prior to the acquisition announcement, divided by the amount paid for the target. The $CASH$ variable measures whether there is sufficient cash available to finance the acquisition without using equity. The $TVAL$ variable is the natural logarithm of the amount paid for the target, which measures the size of the acquired company. Stock momentum (MOM) is measured using the acquirer's buy-and-hold returns from month -6 to the most recent month-end falling at least 30 days prior to the acquisition announcement date.

The results for Eq. 5 are reported in the "Appendix" (the acquirers without necessary data for $CASH$, $TVAL$, and MOM are deleted from the sample). The coefficients of all the independent variables are highly significant and consistent with expectations and the model has fair explanatory power as evidenced by the pseudo R^2 of 24.13%.¹² To implement the matched propensity score approach, we choose for each stock swap acquirer the cash acquirer that has the closest predicted

¹² Martin (1996) predicts that acquirers are more likely to use stock if they have bigger acquisition targets, but the study's findings show just the opposite. In contrast, our model (reported in the "Appendix") is consistent with Martin's (1996) prediction. The difference in results could be attributable to the sample period since Martin's (1996) study examines acquisitions in the period from 1978 to 1988 whereas our sample period is from 1995 to 2006.

probability. The resulting matched sample includes 1,740 acquirers (870 stock swap acquirers and 870 cash acquirers).

In addition to using the matched propensity score methodology, we also use the estimates from Eq. 5 to control for endogeneity using the approach outlined by Heckman (1979). The inverse Mills ratio is obtained from Eq. 5 and then included in the second-step models of management forecasts. The *CASH*, *TVAL*, and *MOM* variables are used to identify any selectivity bias through the inverse Mills' ratio and so these variables are not included in the second-stage models that explain the management forecast decisions.¹³

Table 6 reports the results when Eqs. 1–4 are estimated using the matched propensity score method and the Heckman adjustment. Panel A reports the results for bad news forecasts (Eqs. 1 and 2). The coefficients of *STOCK* × *PRE* are significant using both methods, and the signs are consistent with the predictions of H1. Specifically, the *STOCK* × *PRE* coefficients are -0.251 (-0.264) in the model that explains the disclosure of bad news when we use the matched propensity score (Heckman) methods. Therefore, stock swap acquirers are significantly less likely to disclose bad news during the pre-acquisition period. The results are also consistent in Eq. 2 which explains the magnitude of bad news disclosed. Specifically, the *STOCK* × *PRE* coefficients are 0.065 (0.057) using the matched propensity score (Heckman) approaches. Thus managers disclose significantly less bad news during the pre-acquisition period when their acquisitions are financed using stock. In contrast, Panel B reveals that the *STOCK* × *PRE* coefficients are insignificant in the models for good news forecasts. Since the results in Table 6 are very similar to those reported in Table 5, we conclude that our primary results are not affected by endogeneity problems.

5.2 Returns momentum

Stock swap acquirers enjoy a stronger stock price run-up than do cash acquirers during the six month period prior to the acquisition announcement date (Oler 2008). It is possible that the managers of stock swap acquirers overextrapolate this superior performance (Rau and Vermaelen 1998) causing them to be too optimistic about the future. These managers may then fail to disclose any impending bad news that will later be disclosed on the earnings announcement date. This is an alternative explanation as to why we find that stock swap acquirers are less likely to disclose future bad earnings news.

Section 5.1 partly controls for this returns momentum effect because momentum is one of the independent variables in the first stage financing model (reported in the “Appendix”) that is used to construct the inverse Mills' ratios in the Heckman model. In addition, we match on momentum (and other variables that predict the

¹³ Francis and Lennox (2008) emphasize the importance of utilizing exogenous independent variables from the first-step model that can be validly excluded from the second-step model. In our study, the *CASH* and *TVAL* variables are reasonably assumed to be exogenous, and they are not expected to have a direct effect on the manager's decision to issue an earnings forecast. Therefore, these instruments are likely to be valid. Further, the results in the “Appendix” show that *CASH* and *TVAL* are highly significant predictors of the financing decision, which indicates that they are powerful instruments.

Table 6 Issuance of bad news and good news management forecasts, after controlling for self-selection of the acquisition type (see the “Appendix”)

	Eq. 1		Eq. 2	
	Predicted sign	Frequency of bad news (dependent variable = <i>MFBAD</i>)	Predicted sign	Magnitude of bad news (dependent variable = <i>MFNEWS</i>)
	Matched propensity scores		Matched propensity scores	
	Heckman two-step		Heckman two-step	
Panel A: Tests of H1				
<i>STOCK</i>	? -0.072 (-0.85)	-0.059 (-0.85)	? 0.015 (0.80)	0.011 (0.78)
<i>PRE</i>	? 0.031 (0.43)	0.040 (0.76)	? 0.007 (0.39)	0.008 (0.79)
<i>STOCK</i> × <i>PRE</i>	<i>HI</i> - -0.251*** (-2.33)	-0.264*** (-2.74)	<i>HI</i> + 0.065*** (2.52)	0.057*** (2.86)
<i>R(FE)</i>	- -0.840*** (-7.95)	-0.837*** (-10.14)	+ 0.221*** (7.91)	0.182*** (9.67)
<i>SIZE</i>	+ 0.062*** (3.87)	0.054*** (3.83)	- -0.012*** (-3.37)	-0.009*** (-3.05)
<i>R(MB)</i>	? 0.262** (2.39)	0.295*** (2.94)	? -0.091*** (-3.36)	-0.088*** (-4.23)
Inverse mills ratio		0.030 (0.33)		-0.004 (-0.21)
Year dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
N	3,480	4,944	3,021	4,164
Pseudo R ²	8.38%	7.61%	NA	NA

Table 6 continued

	Eq. 3		Eq. 4	
	Predicted sign	Frequency of good news (dependent variable = <i>MFGOOD</i>)	Predicted sign	Magnitude of good news (dependent variable = <i>MFNEWS+</i>)
	Matched propensity scores	Heckman two-step	Matched propensity scores	Heckman two-step
Panel B: Tests of H2				
<i>STOCK</i>	? -0.070 (-0.88)	-0.092 (-1.26)	? -0.004 (-0.33)	-0.004 (-0.40)
<i>PRE</i>	? -0.186** (-2.50)	-0.171*** (-3.27)	? -0.028** (-2.36)	-0.022*** (-2.99)
<i>STOCK</i> × <i>PRE</i>	H2 + 0.081 (0.74)	0.082 (0.85)	H2 + 0.006 (0.33)	0.005 (0.36)
<i>R(FE)</i>	+ 0.597*** (5.93)	0.615*** (7.43)	+ 0.093*** (4.04)	0.081*** (5.12)
<i>SIZE</i>	+ 0.061*** (3.46)	0.047*** (3.18)	+ 0.007** (2.52)	0.005 (2.13)
<i>R(MB)</i>	? 0.011 (0.09)	0.043 (0.42)	? 0.015 (0.71)	0.023 (1.20)
Inverse mills ratio		-0.100 (-1.00)		-0.005 (-0.28)
Year dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
N	3,480	4,944	2,955	4,089
Pseudo R ²	10.18%	9.79%	NA	NA

The standard errors are adjusted for clustering on each company. z-statistics are reported in parentheses. See Table 2 for variable definitions
 ***, **, * Denote significant at 1%, 5%, 10% levels (two-tail tests), respectively

financing choice) when we employ the matched propensity score methodology in the previous section. Nevertheless, there is a potential concern about the accuracy of this matching since there are only 1,602 cash acquisitions available for matching to the 870 stock swap acquisitions. In fact, the median (mean) absolute difference in the propensity score between the two samples is 0.178 (0.156) and the maximum value of the absolute difference is 0.242.

As a first robustness test, we drop the matched-pairs that generate an absolute difference greater than the median and re-run the models on the smaller sample that contains the closer matches. The results are qualitatively the same as those reported in Table 6.¹⁴ In a second robustness check, we match each stock swap acquirer to a *non-acquiring* company where the matching is based on industry, size, and return momentum. We also match on time using the acquisition announcement (effective) date of a stock swap acquirer as the pseudo acquisition announcement (effective) date for its matched non-acquiring company. The results using this new matched group are very similar. In particular, the stock swap acquirers disclose less bad news and they do not issue more good news during the pre-acquisition period. In a final robustness check, we add return momentum as an independent variable in the management forecast models, and our results for $STOCK \times PRE$ are very similar to those tabulated.¹⁵

5.3 Earnings management

Prior studies find that stock swap acquirers manage earnings upwards before the acquisition date (Erickson and Wang 1999; Louis 2004; Botsari and Meeks 2008). The twin strategies of earnings management and earnings guidance can be substitutes or complements for each other. On one hand, if the stock swap acquirers use one strategy to boost the stock price, the need to use the other strategy may be reduced. In this case, the earnings management and earnings guidance choices would be strategic substitutes. On the other hand, stock swap acquirers may use both strategies at the same time in order to boost the stock price. Therefore, it is an open empirical question whether earnings guidance and earnings management are strategic substitutes or strategic complements. We investigate this question by partitioning the stock swap acquirers based on the magnitude of income-increasing earnings management.

We use unexplained current accruals (*UECA*) in the quarter immediately before the acquisition announcement day as the proxy for earnings management. We follow Louis (2004) by estimating *UECA* using the following model:

$$CUACCR_i = \sum_{j=1}^4 \alpha_j QUA_j + \sum_{t=1995}^{2006} \beta_t YEAR_t + \gamma_1 (\Delta SALES_i - \Delta AR_i) + u \quad (6)$$

¹⁴ All untabulated results are available from the authors upon request.

¹⁵ We do not include return momentum in our main tests because the direction of causality between momentum and forecasting is unclear. In particular, companies that issue bad news earnings forecasts will tend to experience more negative returns and will therefore have a lower returns momentum.

where $CUACCR$ is current accruals; QUA is a dummy equal to one in quarter j and zero otherwise; $YEAR$ is a dummy equal to one in year t and zero otherwise; $\Delta SALES$ is the change in quarterly sales; and ΔAR is the change in quarterly accounts receivable. All the variables are scaled by total assets at the beginning of quarter. $UECA$ is the residual estimated from Eq. 6.

Panel A of Table 7 shows that the mean values of $UECA$ are 0.011 and 0.006 for stock swap and cash acquirers, respectively. The difference (0.011 vs. 0.006) is statistically significant at the 5% level. This is consistent with prior evidence that stock swap acquirers inflate their earnings before the acquisitions take place.

In Panels B and C of Table 7, we partition the stock swap acquirers by the median value of $UECA$. A stock swap acquirer is deemed to have high $UECA$ if its value of $UECA$ is greater than the median (otherwise it is classified as having low $UECA$). We then compare the two groups of stock swap acquirers with the cash acquirer sample, which does not have incentives to manage earnings upwards.

Panel B shows the results for the tests of H1, concerning management's withholding of bad news. The $STOCK \times PRE$ coefficients are significant and have the expected signs in both groups (that is, those with low or high earnings management). This suggests that both types of stock swap acquirer withhold bad news. Consistent with earlier tabulated results, Panel C shows that the tests of H2 are statistically insignificant for both groups. Overall, our results suggest that stock swap acquirers withhold bad news but do not issue overly favorable forecasts; moreover, the asymmetry in these companies' disclosure strategies is not associated with their earnings management behavior.

5.4 Post acquisition returns

Stock swap acquirers who overstate their earnings during the pre-acquisition period experience significantly worse long-run market performance during the post-acquisition period (Louis 2004). This post-merger underperformance by acquiring firms is apparently attributable to the reversal of the price effects of earnings management.

We similarly expect to find long-run underperformance during the post-acquisition period for the stock swap acquirers that withheld bad earnings news during the pre-acquisition period. This bad news is revealed to investors on the earnings announcement date which is after the acquisition is announced. Thus, we expect that stock swap acquirers will perform worse during the post-acquisition period after investors find out about the bad news. We test this argument by partitioning the stock swap acquirer sample into companies that withheld (did not withhold) bad news. To do this we first estimate a management forecast model that predicts whether the company discloses bad news during the pre-acquisition period.

$$MFBAD = \kappa_0 + \kappa_1 STOCK + \kappa_2 R(FE) + \kappa_3 SIZE + \kappa_4 R(MB) + u \quad (7)$$

This model is similar to Eq. 1 except that it does not include the PRE dummy variable because the model is estimated using only the pre-acquisition data. The results for Eq. 7 are reported in Panel A of Table 8. The coefficient of $STOCK$ is

Table 7 Management forecasts and earnings management

Stock swaps ($STOCK = 1$)	Cash purchases ($STOCK = 0$)	Test for difference (t-stat.)	
0.011	0.006		2.26**
Panel A: Comparison of mean unexplained current accruals ($UECA$) in the quarter immediately prior to the acquisition (N = 712)			
Predicted sign	Eq. 1		Eq. 2
	Frequency of bad news (dependent variable = $MFBAD$)		
	High UECA	Low UECA	Magnitude of bad news (dependent variable = $MFNEWS^-$)
			High UECA
			Low UECA

Panel B: Tests of HI after partitioning the stock swaps sample by the median value of $UECA$			
$STOCK$?	0.020 (0.12)	? (1.60)
PRE	?	0.106 (1.09)	? (0.00)
$STOCK \times PRE$	HI -	-0.533** (-2.20)	HI + (1.74)
$R(FE)$	-	-1.586*** (-8.76)	+ (8.85)
$SIZE$	-	0.091*** (2.95)	-0.007** (-2.58)
$R(MB)$?	0.558*** (2.95)	? (-3.57)
Year dummies	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes
N	3,756	3,756	3,146
Pseudo R ²	8.14%	6.98%	NA

Table 7 continued

	Eq. 3		Predicted sign	Eq. 4	
	Frequency of good news (dependent variable = <i>MFGOOD</i>)			Magnitude of good news (dependent variable = <i>MFNEWS^t</i>)	
	High UECA	Low UECA		High UECA	Low UECA
Panel C: Tests of H2 after partitioning the stock swaps sample by the median value of <i>UECA</i>					
<i>STOCK</i>	-0.014 (-0.07)	-0.139 (-0.75)	?	-0.005 (-0.47)	-0.003 (-0.25)
<i>PRE</i>	-0.164 (-1.55)	-0.172 (-1.63)	?	-0.009 (-1.57)	-0.010 (-1.66)
<i>STOCK</i> × <i>PRE</i>	0.231 (0.83)	0.223 (0.87)	H2 +	0.009 (0.59)	0.005 (0.36)
<i>R(FE)</i>	1.185*** (6.67)	1.293*** (7.36)	+	0.056*** (5.53)	0.066*** (6.35)
<i>SIZE</i>	0.138*** (4.25)	0.108*** (3.18)	+	0.006*** (3.59)	0.005** (2.57)
<i>R(MB)</i>	-0.115 (-0.60)	-0.046 (-0.24)	?	0.003 (0.24)	0.006 (0.52)
Year dummies	Yes	Yes		Yes	Yes
Industry dummies	Yes	Yes		Yes	Yes
N	3,756	3,756		3,049	3,021
Pseudo R ²	10.19%	9.38%		NA	NA

UECA is unexplained current accruals, estimated as the residuals of the following regression:

$$CUACCR_t = \sum_{j=1}^4 \alpha_j QUA_j + \sum_{j=1995}^{2006} \beta_j YEAR_t + \gamma_1 (\Delta SALES_t - \Delta AR_t) + u$$

where *CUACCR* is current accrual, *QUA* is a dummy equal to one in quarter *j* and zero otherwise, *YEAR* is a dummy equal to one in year *t* and zero otherwise, $\Delta SALES_t$ is the change in quarterly sales, ΔAR_t is the change in quarterly accounts receivable, and *u* is the error term. See Louis (2004) for complete explanation of the calculation of *UECA*. If a stock swap acquirer has *UECA* greater than the median value of *UECA* of stock swap acquirers, it is classified as a stock swap with high *UECA*; otherwise the stock swap acquirer is classified as a stock swap with low *UECA*.

The standard errors are adjusted for clustering on each company. See Table 2 for other variable definitions. *z* values are reported in parentheses
 ***, **, * Denote significant at 1%, 5%, 10% levels (two-tail tests), respectively

Table 8 Management forecasts and post acquisition performance

Panel A: Model explaining the acquirer's issuance of unfavorable management forecasts in pre-acquisition period

$$MFBAD = \kappa_0 + \kappa_1 STOCK + \kappa_2 R(FE) + \kappa_3 SIZE + \kappa_4 R(MB) + u$$

Dependent variable	Independent variables				Year dummies	Industry dummies	N	Pseudo R ²
<i>MFBAD</i>	<i>STOCK</i>	<i>R(FE)</i>	<i>SIZE</i>	<i>R(MB)</i>	Yes	Yes	2,349	10.73%
	-0.629*** (-3.85)	-1.657*** (-7.21)	0.088** (2.39)	0.667*** (2.77)				

Panel B: Mean value of cumulative abnormal returns (ABRET1) during the year subsequent to the acquisition announcement

Cash purchases (Group 1)	Stock swaps with low <i>UE(MFBAD)</i> (Group 2)	Stock swaps with high <i>UE(MFBAD)</i> (Group 3)	Group 2 vs. Group 1 (t-stat.)	Group 3 vs. Group 1 (t-stat.)
-2.4% (N = 1,597)	-14.0% (N = 376)	-7.6% (N = 376)	-2.50**	-1.10

In Panel A, we estimate the probability that the company issues an unfavorable management forecasts with the following model:

$$MFBAD = \kappa_0 + \kappa_1 STOCK + \kappa_2 R(FE) + \kappa_3 SIZE + \kappa_4 R(MB) + u$$

where *MFBAD* is one if the acquirer issues a bad news earnings forecast during the pre-acquisition period and is zero otherwise; *STOCK* is one if the acquisition is financed using stock and zero if it is financed using cash; *FE* is the analyst forecast error during the pre-acquisition period; *MB* is the market-to-book value of common equity during the pre-acquisition period

$UE(MFBAD) = MFBAD$ dummy in the pre-acquisition period minus the predicted probability of *MFBAD*

Panel B reports the post acquisition performance of stock swap acquirers, after partitioning them by the unexpected probability of issuing a bad news earnings forecast during the pre-acquisition period. The stock swap acquirer is included in the low *UE(MFBAD)* sample if *UE(MFBAD)* is less than the median value. The stock swap acquirer is included in the high *UE(MFBAD)* sample if *UE(MFBAD)* is greater than the median value. Observations with low values of *UE(MFBAD)* are classified as withholding bad news

ABRET1 is the abnormal return over 1 year after the acquisition announcement. The abnormal return is measured following the method in Barber and Lyon (1997). The abnormal return is calculated as the raw return of an acquirer minus the raw return of a matched company. Each company is matched with the acquirer based on its size and book-to-market ratio. We first identify all the companies with a market value of equity between 70 and 130% of the market value of equity of the acquirer in a given calendar quarter. From these companies, we select as a match the company that has the closest book-to-market ratio to that of the acquirer

***, **, * Denote significant at 1%, 5%, 10% levels (two-tail tests), respectively

significantly negative, which supports our earlier finding that stock swap acquirers withhold bad news during the pre-acquisition period.

We compute the predicted probability of a bad news disclosure, which is a function of the future earnings news (that is, *R(FE)*) plus other variables observed during the pre-acquisition period. We then compare the predicted probability with the observed decision to issue an unfavorable management forecast. We classify the stock swap acquirer as unexpectedly withholding bad news if it has a high predicted

probability of issuing a bad news earnings forecast (for example, because there is future bad earnings news) but the company does not actually issue a bad news forecast. Specifically, the $UE(MFBAD)$ variable equals $MFBAD$ dummy in the pre-acquisition period minus the predicted probability of $MFBAD$, as estimated from Eq. 7. A stock swap acquirer is classified as unexpectedly withholding bad news if its value of $UE(MFBAD)$ is below the median.

To determine whether the stock swap acquirers that withhold bad news underperform during the post-acquisition period, we compute the cumulative abnormal return during the year following the acquisition announcement ($ABRETI$). We follow Barber and Lyon (1997) by calculating the abnormal return as the acquirer's raw return minus the raw return of a matched company, where matching is based on the company's size and book-to-market ratio.

Table 8 presents the results when the stock swap acquirer sample is partitioned by $UE(MFBAD)$. The mean value of $ABRETI$ for stock swap acquirers that unexpectedly withhold bad news (that is, with low $UE(MFBAD)$) is -14.0% and is significantly less than that of cash acquirers (t-stat. = -2.50). Thus it appears that the stock swap acquirers perform worse during the post-acquisition period if they concealed unfavorable news prior to the acquisition announcement. In contrast, there is no significant difference in performance between cash acquirers and the sub-sample of stock swap acquirers that do not unexpectedly withhold bad news (that is, with high $UE(MFBAD)$) (t-stat. = -1.10). Thus, for stock swap acquirers that do not withhold bad news during the pre-acquisition period, their future performance is not significantly different from that of the cash acquirers.¹⁶ Overall, the results in Table 8 suggest that stock swap acquirers significantly underperform the market if they would normally be expected to disclose bad news but they withheld this information.

6 Conclusion

When companies finance their acquisitions using stock they have incentives to inflate the stock price prior to the acquisition date. Managers can boost their company's market value by forecasting that the company has good future earnings, by remaining silent about any impending bad news, or by doing both. Based on theoretical models of disclosure as well as evidence on the incidence of litigation, we expect that companies prefer to over inflate their stock through acts of omission rather than commission. Specifically, we predict that remaining silent about bad news is a more attractive strategy than hyping the stock by issuing overly optimistic forecasts about future earnings.

To test whether stock swap acquirers opportunistically disclose overly optimistic forecasts or remain silent about impending bad news, we examine their decisions to issue earnings guidance. Importantly, we control for the magnitude of the deviation between the prevailing consensus analyst forecast and future reported earnings

¹⁶ Unreported results show that the mean value of $ABRETI$ is more negative for the stock swap acquirer sample than the sample of cash purchase acquirers. This is consistent with Louis (2004), who shows that stock swap acquirers generally underperform relative to cash acquirers.

because managers may issue forecasts in a non-opportunistic way in order to bring forward future earnings news. After controlling for this benign motive for earnings guidance, our findings suggest that stock swap acquirers opportunistically withhold bad news in order to avoid falls in their stock market valuations. On the other hand, the evidence does not indicate that companies hype their stocks by issuing overly favorable earnings guidance. Overall, our results suggest that stock swap acquirers fail to correct investors' overly favorable expectations but do not generate those false expectations by issuing overly favorable earnings guidance. That is, deceptions typically occur through omissions rather than commissions.

An important caveat to our study is that we cannot see into the minds of managers and conclusively prove that they were deliberately withholding bad news. One alternative explanation is that there was simply no bad news for managers to disclose. However, this possibility is mitigated by our inclusion of the analyst forecast error as a determinant of the management forecast decision. This allows us to control for both the sign and the magnitude of the upcoming earnings news.

Another alternative explanation is that managers are generally more ignorant about future bad news than future good news. However, for this to explain our results, it would also have to be the case that managers are more likely to be ignorant when they finance their acquisitions using stock rather than cash. Moreover, their ignorance would have to be more prevalent during the pre-acquisition period than in the post-acquisition period due to our difference-in-differences research design. This is not entirely implausible because Oler (2008) finds that returns momentum during the pre-acquisition period is stronger for acquirers who pay using stock, and such momentum could influence managers' perceptions of the future. However, our results continue to hold when we control for momentum and other characteristics that differ between the stock swap and cash acquirer samples. Nevertheless, we cannot completely rule out the possibility that managers are more ignorant about future bad earnings news prior to stock swap acquisitions.

A final alternative explanation is that managers withhold bad news because they are too optimistic about the company's future earnings prospects. Prior studies do in fact indicate that overconfident managers are more likely to engage in acquisition activity (Roll 1986; Malmendier and Tate 2008). However, overconfident managers tend to believe that their stocks are undervalued, and so they are more likely to pay for their acquisitions using cash rather than stock (Malmendier and Tate 2008). Thus the managers of cash acquirers are likely to be even more overconfident than those of stock swap acquirers. This works in the opposite direction to our hypothesis since we predict that stock swap acquirers are more likely than cash acquirers to withhold bad news. In other words, the cash acquirer control sample allows us to control for the fact that overconfident managers are less likely to disclose bad news.

Acknowledgments We thank the editor (Russell Lundholm) and an anonymous referee for their insightful suggestions. We also appreciate the comments of K.H. Chan, Peter Chen, Sudipto Dasgupta, Henock Louis, Kirill Novoselov, Huai Zhang, Guochang Zhang, and workshop participants at Aston University, Cheung Kong Graduate School of Business, Hong Kong University of Science and Technology, Nanyang Technological University, Shanghai University of Finance and Economics, and the University of Lancaster.

Appendix

Probit model explaining the type of acquisition

$$STOCK = \gamma_0 + \gamma_1 R(MB) + \gamma_2 CASH + \gamma_3 TVAL + \gamma_4 MOM + u$$

	Predicted sign	Stock swap acquisition (dep. var. = <i>STOCK</i>)
<i>Intercept</i>	?	-1.515*** (-6.65)
<i>R(MB)</i>	+	0.848*** (7.74)
<i>CASH</i>	-	-0.007*** (-3.72)
<i>TVAL</i>	+	0.099*** (5.98)
<i>MOM</i>	+	0.220*** (3.28)
Year dummies		Yes
Industry dummies		Yes
N		2,472
Pseudo R ²		24.13%

STOCK is one if the acquisition is financed with stock and zero if the acquisition is financed with cash. *MB* is the market-to-book value of common equity for the acquirer at the end of prior fiscal year. *CASH* is the cash balance of the acquirer at the end of the fiscal year prior to the acquisition announcement day divided by the amount paid for the target. *TVAL* is the natural logarithm of the amount paid for the target. *R(X)* is the rank transformation of variable *X*. Ranks are obtained by annually ranking observations and then dividing the ranking by the number of observations for that year. *MOM* is the buy-and-hold returns to the acquirer from month -6 to the most recent month-end at least 30 days before the acquisition announcement date

***, **, * Denote significant at 1%, 5%, 10% levels (two-tail tests), respectively

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