

Who Writes the News? Corporate Press Releases during Merger Negotiations

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ABSTRACT

Firms have an incentive to manage media coverage to influence their stock prices during important corporate events. Using comprehensive data on media coverage and merger negotiations, we find that bidders in stock mergers originate substantially more news stories after the start of merger negotiations, but before the public announcement. This strategy generates a short-lived run-up in bidders' stock prices during the period when the stock exchange ratio is determined, which substantially impacts the takeover price. Our results demonstrate that the timing and content of financial media coverage may be biased by firms seeking to manipulate their stock price.

THE RELATION BETWEEN INFORMATION and stock prices is central to finance, dating back to at least Fama et al. (1969). Key to this relation is the financial media, which serves as the main channel through which information is disseminated to investors. Recent research shows that media coverage drives market trading (Barber and Odean (2008), Engelberg and Parsons (2011)) and affects prices of large and widely followed stocks (Tetlock (2007, 2011)). While this research documents that news coverage impacts the valuation of firms, relatively little is known about the opposite: how firms actively manage their media coverage. In this paper, we propose that firms originate and disseminate information to the media to influence their stock prices during important corporate events, a

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hypothesis we label *active media management*. This hypothesis suggests that the fundamental relation between information and stock prices can be manipulated by firms seeking to advance their strategic interests through their media coverage.

To identify firms with incentives to manage their media coverage, we focus on large corporate acquisitions that use the acquirer's stock as payment. In fixed exchange ratio stock mergers, the target and acquirer negotiate a fixed number of acquirer shares as payment for target stock. In contrast, in floating exchange ratio stock mergers, the two firms negotiate a price per target share in dollars, and at the close of the merger the acquirer issues as many new shares as are needed to match the price. The timing of when the exchange ratio is determined produces different incentives for fixed and floating ratio acquirers. In particular, if an acquirer in a fixed exchange ratio stock merger can raise its stock price during the merger negotiations, it can offer fewer of its shares for each target share to achieve the same expected takeover price. In comparison, if a floating exchange ratio acquirer can raise its price at the close of the merger when the floating exchange ratio is determined, it can issue fewer shares to achieve the negotiated price.

We exploit this difference in the timing of acquirer incentives to identify whether and how firms strategically manage their media coverage. We focus our attention on media coverage during the private negotiation period when a fixed exchange ratio acquirer has an incentive to actively manage its media to temporarily increase its stock price, but a floating exchange ratio acquirer does not. In a sample of 507 acquisitions that use at least some stock as payment, we find strong causal evidence that firms manipulate their stock prices through press releases precisely when they would benefit the most from a temporary price increase.

Though the difference in the timing of acquirer incentives in stock mergers provides an arguably clean setting to identify active media management, endogeneity is still a concern. In particular, self-selection and omitted variables that simultaneously affect media coverage and stock prices may confound our tests. We address these issues in a number of ways.

First, we show that the main determinant of the choice between fixed and floating exchange ratios is the volatility of the acquirer's stock price. Across many other firm-level characteristics, including valuation and size, we find that fixed and floating exchange ratio acquirers are economically and statistically indistinguishable. Thus, fixed and floating ratio deals are natural comparison groups. In contrast, both fixed and floating exchange ratio acquirers differ significantly from all-cash acquirers, the next closest comparison group.

Second, we run difference-in-differences regressions with firm-deal fixed effects, comparing changes in media coverage that occur after the start of merger negotiations for fixed ratio bidders relative to floating ratio bidders. The firm-deal fixed effects account for time invariant differences in the acquirer's stock price volatility, as well as all other observed and unobserved time-invariant differences of both the firms (size, industry, opaqueness, historical media coverage, etc.) and the merger itself (industry relatedness, payment method, etc.).

To account for time-series changes in volatility, we control for five lags of the absolute value of bidders' daily returns and turnover, thus capturing the effect of volatility at different time horizons. Finally, using an option in Factiva, we exclude all news articles related to stock or market data, thereby imposing an additional filter for news related to stock volatility or bidders' valuation. In sum, while controlling for confounding variables, this methodology identifies whether fixed ratio bidders increase their media coverage relative to floating ratio bidders precisely when it is in their best interest.

Our empirical analysis relies on two unique data sets. First, we collect daily media coverage of acquirers from over 400 media sources in Factiva, which includes news publications, electronic wires, and press releases. To our knowledge, with over 600,000 articles, this is one of the most comprehensive media data sets in financial research. A particular advantage of these data is that they allow us to distinguish firm-originated press releases from overall media coverage. Though firms can disseminate information through many channels, corporate press releases have the advantage of being both fast and widely followed by investors and journalists (Dyck and Zingales (2003)). Additionally, the U.S. regulatory environment gives firms substantial flexibility in the content and timing of press releases, as discussed in detail in the Internet Appendix.¹ We combine these media data with a novel hand-collected data set on the details of merger negotiations reported in Securities and Exchange Commission (SEC) filings, which provides us with the dates when the merger negotiations begin. These key dates—which are disclosed only after the official merger announcement—enable us to construct precise tests of the role of financial media during the period when exchange ratios are determined in private.

Our first set of empirical results shows that bidders in fixed exchange ratio stock mergers increase the number of press releases *after* they privately begin merger negotiations and *before* the public announcement of the merger, during the period when the stock exchange ratio is established. In contrast, floating exchange ratio acquirers show little difference in press release issuance during this time. In difference-in-differences regressions, we find that fixed ratio acquirers issue nine extra press releases during the average negotiation period, a 10% increase compared to baseline averages.

The increase in media coverage has a significant and positive effect on stock returns, consistent with prior studies (Barber and Odean (2008), Da, Engelberg, and Gao (2011)), but also has real implications for the merger. The abnormal increase in newswire coverage during negotiations is associated with an estimated savings for an average fixed exchange ratio bidder of \$230 million to \$558 million, or between 5% and 12% of the takeover price in an average deal, compared to floating ratio bidders.

Next, we offer evidence on the tone of news articles issued during merger negotiations. Using the classification of positive and negative words from Loughran and McDonald (2011), we find that, compared to floating exchange

¹ The Internet Appendix may be found in the online version of this article.

ratio bidders, fixed ratio bidders issue significantly fewer negative press releases during the period when the exchange ratio is established. In contrast, there is no change in the tone of newspaper articles, over which firms have much less control. We also evaluate the changes in the spin of press releases by using the categories of overstated and understated words from the Harvard IV-4 dictionary. The overstated category includes words that indicate confidence or exaggeration, such as the adjectives “remarkable,” “confident,” or “strong.” In contrast, the set of understated words indicates weakness or caution, such as the words “doubtful,” “uncertain,” or “weak.” We find that fixed exchange ratio bidders use significantly fewer understated words in their press releases during the negotiation period relative to floating ratio bidders. Overall, the evidence on the changes in the tone of news is consistent with active media management rather than the random arrival of good news.

Though the changes in tone and the run-up in media coverage and market equity during merger negotiations are consistent with the hypothesis of active media management, other explanations are possible. The first possibility is that fixed exchange ratio stock acquisitions coincide with periods of strong operating performance, and that the media coverage during merger negotiations reflects positive news about the bidders’ fundamentals. This hypothesis, which we call *passive media management*, would explain the increase in news and stock valuation during merger negotiations.

To distinguish this view from active media management, we look at price reversals following the abnormal increase in media coverage. The passive media management hypothesis predicts that the increase in the acquirer’s market equity prior to the merger announcement will persist if this increase is driven by fundamentals. In contrast, the active media management view posits that market equity is expected to correct to a lower level.

Consistent with active media management, we observe a correction in the stock prices of fixed ratio bidders after the merger announcement. Over the 3-day period around the merger announcement, an average fixed exchange ratio bidder loses approximately 4.1% in market value, compared to only 2.5% for floating ratio bidders—a significant difference. This downward trend continues over the following 2 months, with fixed ratio bidders losing nearly 40% of the negotiation-period abnormal stock price run-up. Using floating ratio deals as a benchmark, the reversal is associated with a loss to an average target in a fixed ratio deal of about 8.5% of the takeover value. The run-up and reversal in the valuation of fixed ratio bidders around merger negotiations are consistent with strategic media management around these events and are difficult to explain by passive, coincidental arrival of news.

A related yet distinct alternative scenario is that bidders with strong operating performance systematically engage in bad acquisitions and choose fixed ratio deals because they expect a negative market reaction. If the strong operating performance generates additional press releases, this scenario could explain the run-up in media coverage, followed by a correction in the bidder’s stock price at the announcement of a bad deal. To evaluate this alternative, we construct direct tests of both predictions associated with this hypothesis: (1)

bidders' press releases reflect an improvement in operating performance, and (2) fixed ratio deals underperform.

To test the first prediction, we use analysts' forecasts of earnings per share as a proxy for changes in a firm's operating performance. We find no significant change in analyst earnings forecasts for acquirers from the prenegotiation period to the negotiation period for either fixed or floating deals, with no significant difference between the two groups. We also find that fixed ratio bidders reverse the issuance of press releases after the merger announcement, relative to floating exchange ratio bidders, contradicting the idea that the run-up in firm-originated news is unrelated to the merger. To test the prediction that fixed ratio deals underperform, we compare long-run stock returns of fixed and floating ratio bidders. Using holding periods of 1 to 5 years and controlling for standard risk factors, we find that the performance of these deals is economically and statistically indistinguishable. Overall, this evidence indicates that the observed pattern in media coverage and bidders' valuation is unlikely to be coincidental and cannot be explained by differences in deal quality, to the extent that deal quality is reflected in long-run stock returns.

Another alternative hypothesis, *opportunistic acquisitions*, refers to the endogenous decision to initiate a takeover and pay in stock when the acquirer's stock is favorably priced (Shleifer and Vishny (2003), Rhodes-Kropf and Viswanathan (2004)). This hypothesis is consistent with a run-up in bidders' stock prices before an acquisition and a subsequent correction in firm value. If the strong stock performance itself generates news, this hypothesis would also explain the increase in media coverage at the time of merger negotiations.

Several pieces of evidence suggest that our results are unlikely to be explained by opportunistic acquisitions. To control for news triggered by stock returns, we exclude all stories tagged by Factiva as recurring pricing and market data. As an additional filter for news related to abnormal stock performance, we eliminate all articles with fewer than 50 words and all stories with the word "stock" in the title. Our results remain unchanged after imposing these filters. Ultimately, it is difficult to explain why firms pursuing opportunistic acquisitions without changes in fundamentals would accidentally increase their press release issuance exactly at the time of negotiations without a strategy of active media management.

Next, we investigate investors' response to media management and find evidence consistent with a rational updating of prices. Since the true extent of media management is unobservable outside of the media-managing firm, there is always a nonzero probability that firm-originated news contains value-relevant information and consequently affects prices. Before investors are aware of the merger, media management is expected to be more effective, since it is more difficult to distinguish from regular variation in the quantity and tone of corporate news. When investors become aware of the merger, they will revise the probability that news is strategically managed by the firm. Consistent with this interpretation, we find a larger stock price correction for fixed ratio bidders that have engaged in more active media management. After the merger

is announced, we expect that future firm-originated news is discounted by rational investors but continues to influence stock prices, unless the extent of media management can be perfectly detected. Consistent with this prediction, we show that the effects of media coverage on stock prices are diminished but not completely erased when investors can rationally anticipate media management, in particular, when acquirers have a history of media management and at the close of the merger for floating ratio bidders.

We also study how targets respond to media management. We find that target firms engage in a similar strategy of active media management during merger negotiations and that the relative intensity of media management between bidders and targets affects merger outcomes. In particular, we estimate that a one standard deviation increase in an acquirer's newswire coverage leads to an 11% increase in the acquirer's gain relative to the target's gain. This evidence is consistent with the view that, as long as the extent of media management is observed with noise, it can have a significant effect on equity prices and corporate outcomes.

We complement our analysis with several robustness tests. First, we construct a set of tests unaffected by selection issues by exploiting the within-group variation in media management incentives for fixed exchange ratio bidders only, rather than across-group variation between fixed and floating ratio bidders. We find that fixed ratio bidders for which additional news coverage is likely to generate the strongest effect on returns (high market-to-book, greater analyst forecast dispersion, and more retail investors (Kumar (2009))), show a larger increase in press releases than fixed ratio bidders with weaker incentives. Similarly, we show that media management is attenuated in deals in which it is likely to be less effective, such as deals with protective collars and deals that use cash as part of the payment. Second, we impose additional filters to control for possible information leakage about the upcoming merger by excluding deals in which a merger-related word appears in the title of an article about a bidder in the largest newspapers during the negotiation period. Our main findings are unchanged in these robustness tests.

The central contribution of this paper is to provide some of the first evidence that the fundamental relationship between information and stock prices can be distorted by a firm's strategic incentives to control its news coverage. In contrast to the assumption of exogenous and random media coverage, our results show that firms use the media to manipulate their stock prices in order to realize large and long-lasting real effects. While our focus on mergers is motivated by a clean identification setting, we believe that our findings extend to other corporate events in which a short-run increase in stock prices can have significant real effects, such as initial public offerings, secondary equity issuances, and the expiration of executive stock options, among others.

Our findings also provide new explanations for two important empirical results in merger research: the run-up in bidders' stock prices and the subsequent correction at the merger announcement. In contrast to assumptions of exogenous misvaluation (e.g., Shleifer and Vishny (2003)), our paper provides evidence that the run-up is driven by firms' strategic timing of news releases.

Second, in contrast to assumptions of managers' irrationality (Roll (1986)) or governance failure (Jensen (1986)) that have been proposed to justify negative announcement returns, our results are consistent with the view that merger returns reflect a rational discounting of selectively released news. Overall, we provide a unified explanation for both patterns using a rational framework.

The rest of the article is organized as follows. Section I provides a brief overview of how this paper relates to existing research. Section II discusses data and methods. Section III presents empirical results on whether firms actively manage media. Section IV provides empirical evidence on how investors and target firms respond to media management. Section V offers robustness checks and reviews alternative hypotheses. Section VI concludes.

I. Related Literature

This paper contributes to the growing literature on media in finance and economics. Earlier research shows that media outlets display political and economic biases (Groseclose and Milyo (2005)), and that these biases tend to be slanted toward the customers of the media outlet (Mullainathan and Shleifer (2005), Gentzkow and Shapiro (2006), Gentzkow and Shapiro (2010)), the media firm's advertisers (Reuter and Zitzewitz (2006), Gurun and Butler (2012)), or governments (Besley and Prat (2006)). More recent research shows that media coverage has a substantial effect on both political and economic outcomes, such as voting behavior (DellaVigna and Kaplan (2007)), stock trading (Engelberg and Parsons (2011)), capital allocation across mutual funds (Soloman, Soltes, and Sosyura (2013)), CEO compensation (Core, Guay, and Larcker (2008)), and corporate governance (Dyck, Volchkova, and Zingales (2008)). These papers view the media as the active player, influencing outcomes through potentially biased editorial choices. In contrast, our paper views a firm as the active player, using media coverage to influence its own outcome.

Another line of research on media in financial markets investigates the effect of media coverage on stock returns and volume. One view is that news dissemination reduces information asymmetry, resulting in quicker incorporation of new information, more efficient prices of financial assets, and higher values (DellaVigna and Pollet (2009), Fang and Peress (2009)). An alternative view is that media coverage is subject to manipulation and can result in deviations of stock prices from their fundamentals (Huberman and Regev (2001)). Consistent with this alternative view, a number of papers find that media coverage produces short-term upward price pressure on stocks due to increased attention by investors (Chan (2003), Vega (2006), Barber and Odean (2008), Gaa (2010)). Our paper provides evidence that the latter effect can dominate during important corporate events and that companies can strategically use this channel to affect their stock price.

Two other papers look at the role of media in corporate finance, both in the setting of IPOs. Cook, Kieschnick, and Ness (2006) investigate the relationship between marketing efforts, including media coverage, and the success of an IPO. They find that news coverage significantly affects IPO outcomes.

Similarly, Liu, Sherman, and Zhang (2009) examine the role of media in IPOs and show that offerings with greater media coverage have higher initial returns and greater long-term value. We contribute to this literature by distinguishing between firm-originated news and external media coverage and by demonstrating how firms actively manage their information environment.

Last, our paper is related to the literature on investor relations. Bushee and Miller (2007) find that companies that hire investor relations firms experience an increase in media coverage, institutional ownership, and valuation. Solomon (2012) shows that investor relations firms spin corporate news in a favorable way, resulting in a temporary increase in stock returns. Our paper adds to this literature by highlighting the motives and channels of information management and demonstrating the effects of this strategy on the outcomes of major corporate events.

II. Data and Methods

A. *Background of the Merger Data*

To construct our sample of mergers, we start with the largest 1,000 completed mergers of U.S. publicly traded firms in the SDC database, as measured by deal value, announced between January 1, 2000, and December 31, 2008. Acquirers must purchase at least 20% of outstanding shares and own more than 51% of the target firm shares following the merger. We begin our sample in 2000, since Factiva's news coverage in earlier years is scarcer and lacks intelligent indexing codes for many merging firms (discussed in more detail later). We exclude withdrawn merger bids because we require a merger agreement document to identify key dates in the negotiation process. Our focus on larger deals is motivated by the substantial transfers of value in these transactions, which arguably provide stronger incentives to manage stock valuation during the merger. We also obtain the form of payment used in the merger from SDC and exclude deals paid only in cash because all-cash offers are different from deals involving stock on many dimensions. We discuss these differences in detail later in the paper when we explain our identification strategy. Therefore, our sample includes only mergers in which some stock was used as payment.

For each deal in our sample, we retrieve information about the terms of the transaction and the key dates in the merger process from SEC filings.² This information typically appears in the section entitled "Background of the Merger" in the merger agreement, which provides a narrative history of the merger process, though terms of the transaction are often described in various other sections of the SEC filings. In particular, we collect the date when the merging firms first discuss the potential merger, the date when the exchange ratio is first discussed, and the date when it is finalized, the type of the exchange ratio (fixed or floating), and the period over which the price is determined for

² We search the following forms in the given order until we find the relevant data: DEFM14A, DEFA14A, DEFR14A, DEF14A, PREM14A, PRER14A, S-4/A, S-4, 424B3, 424B2, F-4, 497, 10-K, 8-K, N-148C/A, SC13E3, SC13E3/A, and SCTO-T/A.

the floating ratio. These key dates (which are made public only after the official merger announcement) enable us to construct sensitive tests of the active media management hypothesis that rely on daily data from news sources. Hand-collecting these data is also necessary to record whether a fixed or floating exchange ratio is used since these data are not reported in standard databases, such as SDC. The “Background of the Merger” section for the merger of CVS and Caremark is provided as an example in the Internet Appendix.

Since details on the identification of fixed or floating exchange ratios are critical for our tests, we eliminate deals for which we cannot reliably establish this information. After collecting the data, we find that the date that merger negotiations began was much more populated and precise than the dates that pertain to the determination of the exchange ratio. For the dates that we could obtain about the exchange ratio, we find that, though the use of a fixed exchange ratio was often decided relatively early, the exact date that the ratio was set was often close to the public announcement date (within 10 days or less). Due to both the lack of dates and the closeness to the announcement date, this information is a less reliable way to distinguish periods in which we would expect to see more active media management. Therefore, we focus our attention on the date that merger discussions begin.

Using these data on the timing of merger negotiations, we define the following time periods:

- (1) *Prenegotiation Period*: the 120 trading days that immediately precede the day that merger discussions begin.
- (2) *Negotiation Period*: the period that begins on the date of the first discussion of the merger by the two firms, until 16 days before the public announcement of the merger.
- (3) *Announcement Period*: the 5 days surrounding the first public announcement of the merger.
- (4) *Transaction Period*: the period that starts 5 days after the public announcement of the merger until 2 days before the merger closes.

We restrict the negotiation period to end well before the public announcement to ensure that our media coverage does not contain information about the merger. However, all of our results remain if we change this requirement to include days up to 10 or 5 days before the public announcement. In all cases, it is important to remember that these dates are *before* there has been any public acknowledgment of the merger and are only realized *ex post* by reading the SEC filings. Figure 1 illustrates the sequence of time periods in a typical merger.

B. Press Releases and Financial Media Data

News coverage is collected from the Factiva database. To collect articles and press releases for each firm, we use the acquirer’s Intelligent Indexing

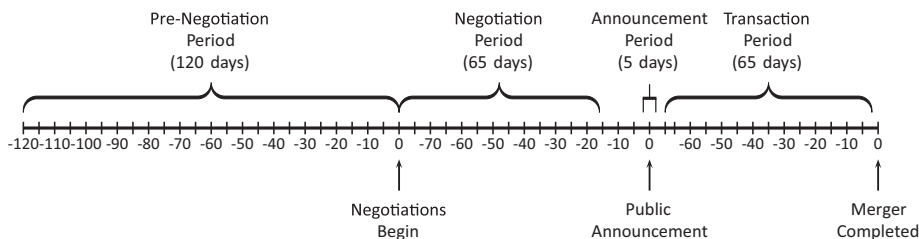


Figure 1. Timeline of an average merger. This figure shows the average length of time in each stage of the merger process for our sample of 507 acquisitions during 2000 to 2008. Numbers represent trading days relative to one of three key dates. In the Prenegotiation Period (120 trading days before negotiations begin until the day negotiations begin), days are numbered relative to the start of negotiations. In the Negotiation Period (the day negotiations begin until 16 trading days before the public announcement), days are numbered relative to the public announcement of the merger. In the Transaction Period (5 days after the public announcement until 2 days before the completion of the merger), days are numbered relative to the completion date of the merger. The announcement period denotes the 5 days centered on the day of the public announcement.

Code assigned by Factiva. In particular, if a news article discusses a firm in sufficient detail, Factiva matches this article to the firm's intelligent indexing code, enabling us to identify relevant articles and press releases based on firm identity rather than a less precise keyword match.

To study a firm's media strategy around mergers, we collect daily data on the firm's press releases and news articles issued from the prenegotiation period through the close of the merger. Our list of possible news sources includes all English-language media sources included in Factiva's category of major news and business publications plus newswire services. Major newspapers and business publications include a large number of publications, such as *USA Today*, *The Wall Street Journal*, and *The New York Times*, among many others. Our counts of media articles include reprints or highly similar articles. This means our media coverage variables measure breadth of coverage across multiple media outlets, rather than unique news events.

The data on newswire articles are particularly crucial for understanding whether firms actively manage media. These articles typically report firm press releases with no additional analysis. As discussed in the introduction, a firm's press releases may be particularly suitable for active management because this channel is less regulated than accounting statements, affording greater flexibility in content and providing an opportunity to spin news in a desired way (Dyck and Zingales (2003)). Using newswire articles to measure firm-originated news has an advantage over simple counts of press releases as well, because newswires measure how widely circulated the press release is.

Finally, we eliminate deals for which the Factiva database provides an intelligent indexing code only for the combined firm rather than a separate code for the acquirer and the target. As another filter for article substance, we eliminate articles with fewer than 50 words and articles tagged by Factiva as recurring pricing and market data. A representative sample of news articles is presented in the Internet Appendix for the CVS–Caremark merger.

C. Summary Statistics

After imposing the media and merger data filters, we end up with 507 mergers, including 377 (74%) fixed exchange ratio deals and 130 (26%) floating exchange ratio deals. These percentages are comparable to the sample used to study merger arbitrage in Mitchell, Pulvino, and Stafford (2004). In a sample of 2,130 mergers from 1994 to 2000, they find that 78% of stock mergers used a fixed exchange ratio and 22% used floating. Our final sample of articles includes 617,445 articles over the entire merger process across 421 sources, including local, national, international, and foreign newspapers and newswires. The domestic newspaper with the most articles in the sample is *The Wall Street Journal*, with 16,471 articles, or 2.7% of the total number of articles in the sample. The next two newspapers with the most articles are *The New York Times* and *The Washington Post*, with 6,450 articles (1.0% of total) and 3,631 articles (0.6% of total).

The most common newswire and most common media outlet of any kind, by a large margin, is *Reuters News*, with 139,789 articles, or 22.6% of the total sample of articles. *Dow Jones News Service* and *Business Wire* account for the next two most frequent newswire sources with 98,373 articles (15.9%) and 38,540 articles (6.2%). Measured by the number of articles, newswires are the predominant source of new information. The top 15 newswires account for more than 70% of total media articles. Our media sources also include foreign newspaper articles that are written in English. Not surprisingly, these media sources are in countries where English is the primary or a common language, such as the United Kingdom, India, Australia, and Canada. The most frequently represented foreign newspaper is *Financial Times* of the United Kingdom with 8,045 articles, or 1.3% of total articles. A detailed listing of the top 15 sources by type of media outlet is provided in Table IA.I in the Internet Appendix.

Throughout our analysis we use three different measures of media coverage. First, we record all articles from any source in our sample. Second, since newswires and foreign newspapers likely have a different audience from domestic newspapers, we separately measure the number of articles in the top three most circulated domestic newspapers: *The Wall Street Journal*, *USA Today*, and *The New York Times*. These three papers have a total combined circulation in 2009 of 4,852,236 newspapers per day, not adjusting for overlapping readers. Though *USA Today* is the second most circulated newspaper, because it is a general interest national newspaper, it is only the 12th most common domestic newspaper source for articles in our sample, with only 1,262 articles. However, given its wide circulation, it is an important media outlet for firms. Last, we record the number of articles in the top three newswires: *Reuters News*, *Dow Jones News Service*, and *Business Wire*. As noted, we use this measure to capture firm-originated news, since the newswires typically provide little analysis. One may be concerned that bidders are able to influence newspaper coverage through public relations (PR) firms. However, recent research shows that the influence of PR firms is primarily concentrated in the smaller, regional

Table I
Summary Statistics of Media Coverage and Merger Negotiations

This table presents summary statistics for 617,445 media articles from 421 sources reported in the Factiva database about acquirers in 507 mergers over 2000 to 2008 by different periods in the merger process. The prenegotiation period is the period from 120 trading days before the merger talks begin until the day before merger talks begin. The negotiation period starts on the day merger negotiations begin and ends 16 trading days before the public announcement of the merger. The announcement period includes the 5 days that surround the public announcement of the merger. The transaction period is the period 5 days after the announcement date until 2 days before the merger closes. Monthly figures are aggregates of 20 trading days by firm-day observations. *The Wall Street Journal*, *The New York Times*, and *USA Today* are the top three domestic newspaper sources. *Reuters News*, *Dow Jones News Service*, and *Business Wire* are the top three newswire sources.

	Mean	Std. Dev.	Percentile			Obs.
			25th	50th	75th	
<i>Monthly Media Coverage in Prenegotiation Period</i>						
Number of all articles per firm-month	73.42	195.97	0	11	60	60,840
Number of top 3 domestic news articles per firm-month	3.01	11.98	0	0	1	60,840
Number of top 3 newswire articles per firm-month	30.76	99.25	0	1	20	60,840
<i>Change in Monthly Media Coverage in Negotiation Period (Within-Firm-Deal)</i>						
Number of all articles per firm-month	2.85	50.78	-7.50	-0.09	7.50	27,489
Number of top 3 domestic newspaper articles per firm-month	-0.12	2.93	-0.49	0.00	0.17	27,489
Number of top 3 newswire articles per firm-month	1.52	36.70	-3.42	-0.09	3.00	27,489
<i>Media Coverage during the Announcement Period</i>						
Number of all articles	59.70	86.93	17	30	67	2,535
Number of top 3 domestic news stories	3.23	5.18	1	2	3	2,535
Number of top 3 press releases	29.85	46.10	7	15	31	2,535
<i>Timing of the Merger Process</i>						
Days in negotiation period	64.68	63.93	17	44	92	507
Days in transaction period	64.46	57.96	24	48	86	507

newspapers (Bushee and Miller (2007), Solomon (2012)). In contrast, PR firms appear to have relatively little control over the largest national newspapers, such as *The Wall Street Journal* or *The New York Times*.

Table I presents summary statistics of the merger and media data. An average (median) acquirer appears in 73.4 (11) media articles per month (20 trading days) during the prenegotiation period. These figures represent normal media coverage unrelated to upcoming mergers. An average acquirer's press releases are covered in 30.8 articles in the top three newswires, and only 3.0 articles in the top three domestic newspapers, during an average

prenegotiation month. These cross-sectional distributions are right skewed with median newspaper articles much lower than mean articles. Finally, there is substantial cross-sectional variation in the distribution of news articles with the standard deviation exceeding the mean across the measures of media coverage.

Next, we show the within-deal change in media coverage from the prenegotiation period to the negotiation period. The skewness is substantially reduced for the within-deal count distributions. The average bidder has an increase of 2.9 articles from all sources, and 1.5 articles in the top three newswires, with medians close to zero for all three media source categories. Restricting attention to the 5 days surrounding the merger announcement, the average (median) acquirer has 59.7 (30) articles across all media sources in our sample, 29.9 (15) articles in the top three newswires, and 3.2 (2) articles in the top three domestic newspapers. These results demonstrate that merger announcements are large news days, as expected, with the announcement period media coverage equal to about 80% of an average acquirer's monthly coverage in the prenegotiation period. These results also demonstrate that firms issue multiple press releases on the same day. On the announcement days, the median acquirer has 15 articles across just three newswires. The results further demonstrate that coverage by one of the top three newspapers is relatively rare. In the announcement period, the median acquirer has only two articles in the top three newspapers, and the average acquirer is covered in just 3.2 articles.

At the bottom of Table I, we present summary statistics of the timing of the merger process. These dates are crucial for our study since we compare the media coverage during each of the three periods. The number of days from the start of the merger talks until the day of the public announcement is 64.7 on average and 44 at the median. The average (median) time from the announcement to the completion of the merger is 64.5 (48) days. Since there are cases in which the negotiation period is very short, we restrict our analysis to only mergers where there are at least 20 days in the negotiation period. The timeline illustrated in Figure 1 reports the average number of days in each time period.

In untabulated statistics, the average (median) market equity of an acquirer in our sample is \$26.8 billion (\$6.17 billion), compared to \$3.64 billion (\$1.12 billion) for targets. The average relative size of the deal, defined as the transaction size divided by the market equity of the acquirer, is 51.4% and the median is 27.2%. The average transaction value is \$4.44 billion. These statistics show that our sample is composed of large mergers, both in absolute and relative size. On average, 72.7% of the payment is made with stock (87% at the median), the average acquirer has 2.2 different mergers in our sample, and 72.8% of acquirers and targets are in the same Fama–French 49 industry classification codes.³ The top five industries of acquirers are Banking, Computer Software, Electronic Equipment, Telecommunication, and Pharmaceuticals, comprising 50.9% of acquirers. The top five industries of targets are the same top three

³ Industry codes are made available on Kenneth French's website.

as acquirers, plus Petroleum and Financials, with the top five accounting for 52.5% of targets.

D. Identification Strategy

The central premise of this paper is that firms actively manage their media coverage during key corporate events, namely, acquisitions. To identify the causal relationship between making a stock acquisition and increased media coverage, we must address selection bias and endogeneity. First, the act of acquiring is not randomly assigned to a firm. Instead, there may be something characteristic about acquirers that leads them to increase their media coverage but that is unrelated to the merger. For example, firms that are experiencing high growth may release more news and also conduct more mergers at the same time. In this case, an omitted firm-level characteristic, such as a high growth rate, may cause a spurious correlation between the timing of a merger and increased media coverage.

More generally, it is likely that both observable and unobservable firm-level characteristics are related to media coverage and mergers. To address this concern, we use a firm-deal fixed effects difference-in-differences approach to control for any time invariant firm characteristics as follows:

$$Media_{i,t} = \alpha + \eta Negotiation_{i,t} + \phi Negotiation_{i,t} \times Fixed_i + \gamma X_{i,t} + \delta_i + \varepsilon_{i,t}, \quad (1)$$

where $Media_{i,t}$ is the count of media articles for firm i on day t for one of the three categories of media sources we defined previously, $Negotiation_{i,t}$ is a dummy variable that takes the value of one if the observation occurs after merger negotiations have begun and zero if it occurs before negotiations have begun, $Fixed_i$ is a dummy variable that equals one if the deal is structured using a fixed exchange ratio and zero if it is structured using a floating exchange ratio, $X_{i,t}$ is a set of time-varying factors, and δ_i is a firm-deal fixed effect. The firm-deal fixed effect captures any time-invariant characteristic of the acquirer or the merger, including observables such as industry, firm size, historical media coverage, and financial ratios as well as any unobservable firm characteristics that do not change in the relatively short time of the merger process. In addition, this term captures any time-invariant aspect of the merger, such as the industry relatedness and the form of payment, including whether the deal uses a fixed or floating exchange ratio. The coefficient on the interaction of $Negotiation$ and $Fixed$ captures the difference-in-differences of fixed versus floating from the period prior to negotiations to the negotiation period. Thus, this specification alleviates much of the concern that omitted firm or deal characteristics may explain a firm's level of media coverage, and isolates the effect of a fixed or floating exchange ratio on differences in media coverage as merger negotiations proceed.

We restrict our attention only to mergers that use stock to control for differences between all-cash and stock mergers. If all else were equal, acquirers in all-cash mergers would be a useful benchmark since they do not have an

incentive to use the media to affect the takeover price. However, prior research finds that all-cash deals and stock deals are systematically different: bidders' returns vary significantly by cash and stock deals (Andrade, Mitchell, and Stafford (2001)), the target's form of legal organization has differential effects on announcement returns for cash and stock deals (Chang (1998), Fuller, Netter, and Stegemoller (2002), Moeller, Schlingemann, and Stulz (2004)), and information asymmetry affects the choice of cash and stock as well as the announcement returns of the merger (Hansen (1987), Moeller, Schlingemann, and Stulz (2007), Cooney, Jr., Moeller, and Stegemoller (2009), Officer, Poulsen, and Stegemoller (2009)). In addition, Loughran and Vjih (1997) find differences in long-run returns for all-cash and stock bidders, Faccio and Masulis (2005) find that financing constraints and corporate control threats affect the choice of cash or stock, and Boone and Mulherin (2007) report that auctions are more likely paid in cash compared to negotiated mergers.

In Table II, we empirically verify that cash and stock deals are substantially different in our sample. All-cash bidders are significantly larger; have less dispersion in analyst estimates; have greater institutional ownership, greater intangibles, and R&D; make acquisitions of relatively small targets; and are less likely to make horizontal mergers compared to stock deals, whether fixed or floating. In contrast, fixed and floating stock deals are highly similar across a variety of measures, with the exception of the acquirer's stock price volatility. Additionally, in Table IA.II in the Internet Appendix, we run multinomial logit tests of the choice between fixed, floating, and all-cash deals and find significant differences between the determinants of cash and fixed deals, but almost no difference between fixed and floating deals.

The observed similarity between fixed and floating exchange ratio mergers makes them useful comparison groups. In contrast, the many differences between cash and stock deals increase the risk that they have different time trends in media coverage during merger negotiations, unrelated to active media management. These unobserved trends would not be captured by firm-deal fixed effects. For instance, previous work finds that all-cash acquisitions are often indicative of a free cash flow problem and agency issues in the bidding firm (Harford (1999)). If cash deals are associated with poorer governance, bidders' management may prefer to "lead a quiet life" by keeping the firm's disclosure strategy constant merely to avoid exerting additional effort. In this case, we would observe no change in bidders' media coverage during negotiations, but this outcome would be driven by differences in governance rather than by the lack of an incentive to manage media in an all-cash bid. Additionally, the evidence in Table II shows that the size of the target relative to the acquirer is nearly three times smaller in cash deals than in stock deals. The firm-deal fixed effects would account for differences in the relative size of the target, but they would not account for the time-varying differences in the incentives for media management. For example, the acquirer may choose not to alter the firm's disclosure strategy for the smallest deals. In this case, we would observe no change in the bidder's media coverage, but this outcome would be driven

Table II
Firm Characteristics by Form of Merger Payment

Columns (1) to (3) present averages of acquirer characteristics for 377 fixed exchange ratio acquisitions, 130 floating-exchange ratio acquisitions, and 139 all-cash acquisitions. Columns (4) to (6) present differences-in-means tests with *p*-values reported in parentheses. “Fixed exchange ratio” denotes bidders in stock acquisitions where the number of bidder’s shares to be issued for each target share is fixed. “Floating exchange ratio” denotes bidders in stock acquisitions where the number of bidder’s shares to be issued for each target share floats to achieve a particular price per target share. “All cash offer” denotes bidders that offer only cash as consideration. “Stock return volatility” is calculated over the prenegotiation period, defined in Table I. “Market equity” is the value of market equity (in \$ billions) on the first day of negotiations. “Analyst dispersion” is the coefficient of variation in analysts’ quarterly earnings forecasts for the acquirer in the most recent forecasting period before the merger announcement. “Institutional ownership” is the percent of shares owned by institutional investors in the most recent reporting period before the merger announcement. “Intangibles/Assets” is (Total Assets – Net PPE – Current Assets)/Total Assets. “High-Tech Industry” is a dummy variable for acquirers in Fama–French 49 Industries: Computers (35), Software (36), or Electronics (37). “Tobin’s *Q*” is (Total Assets – Common Equity + Market Equity)/Total Assets. “Market-to-book” is calculated as in Fama and French (1992). “ROA” is Operating Income Before Depreciation/Total Assets. “Raw media count” is the number of daily media articles from all sources in the prenegotiation period. “Same industry” is a dummy equal to one if the acquirer and target are in the same Fama–French 49 industry code. “Relative size” is the merger transaction size divided by the acquirer’s market equity. Significance at the 0.01, 0.05, and 0.10 levels is indicated by ***, **, and *.

	Fixed	Floating	All	Differences		
	Exchange	Exchange	Cash	(1)–(2)	(1)–(3)	(2)–(3)
	Ratio	Ratio	Offer			
	(1)	(2)	(3)			
Stock return volatility	3.066	2.441	1.903	0.625*** (<0.001)	1.164*** (<0.001)	0.538*** (<0.001)
Market equity	24.580	32.718	38.160	–8.138 (0.202)	–13.579** (0.016)	–5.441 (0.464)
Analyst dispersion	0.053	0.043	0.023	0.010 (0.462)	0.030*** (0.002)	0.021** (0.040)
Institutional ownership	0.158	0.152	0.192	0.007 (0.624)	–0.034** (0.032)	–0.041** (0.019)
Intangibles/assets	0.136	0.150	0.251	–0.014 (0.491)	–0.115*** (<0.001)	–0.101*** (<0.001)
R&D/assets	0.030	0.024	0.032	0.006 (0.160)	–0.002 (0.653)	–0.008* (0.097)
High-Tech Industry	0.308	0.277	0.386	0.031 (0.505)	–0.078 (0.103)	–0.109* (0.058)
Tobin’s <i>Q</i>	2.331	2.240	2.196	0.091 (0.648)	0.135 (0.382)	0.043 (0.834)
Market-to-book	4.607	4.404	3.780	0.204 (0.718)	0.827** (0.047)	0.624 (0.262)
ROA	0.117	0.140	0.160	–0.024* (0.054)	–0.043*** (<0.001)	–0.019 (0.115)
Raw media count	3.430	4.228	6.098	–0.797 (0.384)	–2.668*** (0.007)	–1.871 (0.109)
Same industry	0.735	0.708	0.479	0.027 (0.558)	0.256*** (<0.001)	0.229*** (<0.001)
Relative size	0.497	0.565	0.188	–0.068 (0.552)	0.309*** (<0.001)	0.377*** (0.001)

by the relative size of the target rather than by the choice of the method of payment.

However, even within stock mergers, one may be concerned that the choice of fixed or floating is not randomly assigned across acquirers. For this to confound our tests, it must be the case that an omitted variable causes a firm to choose a fixed or floating exchange ratio *and* also leads to greater media coverage for reasons unrelated to the merger itself. One potential variable is firm overvaluation. If the management of the acquirer knows that its firm is overvalued at the start of negotiations, it would have a preference for a fixed exchange ratio to lock in a favorable takeover price. In addition, if media outlets have a preference for articles about highly valued firms, we may see more media coverage during the merger negotiations caused by high valuations, rather than active media management. Alternatively, fixed ratio bidders may be systematically undervalued and their managers may release more information to help the market correct to true values.

In Table II, we find that the valuations of the two sets of stock acquirers, based on market-to-book ratios or Tobin's Q , are statistically and economically indistinguishable from each other. Since the two types of firms have nearly identical valuations before negotiations begin, any subsequent differences in media coverage during the negotiation period are unlikely to be driven by a spurious correlation between the media's preference for articles about highly valued firms and a highly valued firm's preference for a fixed versus floating exchange ratio.

We find that the one significant difference between fixed and floating mergers is the volatility of the acquirer's stock price. Volatility generates opposite preferences for fixed exchange ratios between acquirers and bidders. If the payment method were established unilaterally by the target, all else equal, a risk-averse target would likely prefer a floating exchange ratio to lock in its dollar compensation. However, the bidder would have the opposite incentive and would prefer a fixed exchange ratio. Specifically, bidders have strong incentives to fix the number of shares issued to ensure that the merger is accretive to earnings per share and to manage post-merger voting control rights. Ultimately, since the payment method is established bilaterally, the outcome is an empirical question. In both the univariate results and the multinomial logit tests in Table IA.II in the Internet Appendix, we find that fixed ratio mergers are more likely when the acquirer's stock price volatility is higher.⁴ These results imply that the choice of payment method is more sensitive to bidders' preferences than to those of targets. More generally, these results are consistent with the fact that the majority of mergers use fixed exchange ratios, but a sizable minority use floating ratio bids, reflecting a negotiated outcome.⁵

⁴ Additional robustness checks for this result are presented in Table IA.III in the Internet Appendix.

⁵ In untabulated results, we also find that more than 30% of repeat acquirers in our sample employ both fixed and floating exchange ratio payments, consistent with the idea that payment method is not unilaterally chosen.

Given that the choice of fixed or floating exchange ratios is driven primarily by the acquirer's historical stock price volatility, we do not expect our results to be affected by selection bias. First, Brandt et al. (2010) find that firm-level volatility is persistent over time. Therefore, the cross-sectional differences in firm-level volatility between fixed and floating ratio bidders are mostly captured by the firm-deal fixed effects we include in our tests. This is especially true considering the short time windows we study. Second, to account for any time-series variation in volatility that could affect media coverage, we include controls for the magnitude of daily fluctuations in the bidders' stock returns in all of our regressions. These controls include five lags of the absolute value of bidders' daily returns, thus capturing the effect of volatility at different time horizons and allowing for a decaying relation. Third, to control for the possibility that a fixed ratio is chosen in response to a change in the bidder's volatility, we also include the interaction term between the bidder's volatility (measured by the absolute value of daily returns) and the fixed ratio dummy. We also remove any news articles that may be driven by stock volatility or bidders' valuation. In particular, using an option provided by Factiva, we exclude all media articles related to stock or market data.

Finally, as another way to identify active media management from alternative hypotheses, we exploit the variation in firm-generated news and news appearing in public media. If the increase in news is explained by incentives to manage media coverage, we would expect a significantly greater increase in firm-generated news (over which the company has full control) and a smaller increase in news in other media.

D.1. The Incentives of Floating Exchange Ratio Bidders

Our identification relies on the assumption that bidders want to increase media coverage prior to the date when the exchange ratio is determined. For fixed exchange ratio bidders this is in the negotiation period, while for floating exchange ratio bidders this is in the transaction period. Though floating ratio bidders are not restricted from starting a media campaign before the merger announcement, there are several potential costs to starting a media campaign early. First, a floating ratio bidder may wish to avoid alerting the target that it may influence the takeover price through media coverage. If media management is postponed until after the end of negotiations, it may be more difficult for the target to estimate the extent of future media management and to fully adjust for it when negotiating the takeover price. Second, the literature on financial disclosure shows that a firm has an incentive to reduce disclosure when its product market rivals can make strategic use of this information, such as in periods preceding important investments.⁶

⁶ For example, this prediction is derived analytically by Darrrough (1993) and Verrecchia (1983, 1990), and supported empirically by Campbell (1979) and Ellis, Fee, and Thomas (2012), among others.

On the other hand, a floating ratio bidder may start a media campaign early if it believes that it will be harder to influence its stock price after the merger announcement or if there is no benefit to delaying the news. If this is the case, we would expect to find smaller differences in media coverage between fixed and floating ratio bidders. In other words, as the timing of incentives becomes more similar across the two types of firms, the difference in media coverage between fixed and floating ratio bidders will become understated.

D.2. The Incentives of Target Firms

Target firms also have incentives to manage their media coverage during the merger process to increase the takeover price. However, in contrast to acquirers, targets will only benefit if they can increase their stock price during the negotiation period, not the transaction period, regardless of whether a fixed or floating exchange ratio is used. Once either the fixed exchange ratio or price per share of the floating exchange ratio is settled in the negotiations, the target's share price has no effect on the final price that the target will receive, because the price is either already determined (in floating deals) or fluctuating based on the acquirer's stock price (in fixed deals), not the target's. Therefore, only the acquirer's stock price could affect the price received. This means that we do not have a clear benchmark of media coverage for targets. For this reason, we focus on acquirers since we can run difference-in-differences tests that exploit the differences in timing of incentives of fixed versus floating ratio bidders.

III. Evidence on Active Media Management

In this section, we first investigate the pattern of media coverage during negotiations for fixed relative to floating exchange ratio acquirers. Second, we test whether increases in media coverage affect market equity. Third, we test for reversals in media coverage and market equity. Finally, we analyze changes in the tone of the media coverage over the merger timeline.

A. Do Fixed Ratio Bidders Increase Media Coverage during Negotiations?

The active media management hypothesis predicts that acquirers in fixed exchange ratio mergers have an incentive to try to increase their stock price through increased media coverage during merger negotiations. In contrast, acquirers in floating exchange ratio mergers would not have the same incentive. Instead, they have an incentive to increase their stock price near the close of the merger when the exchange ratio is determined. Thus, we expect that acquirers in fixed ratio deals will exhibit significantly higher media coverage during the negotiation period than floating ratio acquirers. For reference, we present these predictions in comparison to alternative hypotheses in Table III.

Figure 2 presents a comparison of the cumulative number of daily abnormal newswire articles for fixed and floating ratio bidders for the prenegotiation

Table III
Hypotheses and Testable Predictions

This table presents a summary of the main hypotheses and their predictions defined in a difference-in-differences framework. The prediction shown is the expected change in the variable of interest for fixed ratio bidders relative to floating ratio bidders over the specified period in the merger process. The negotiation period starts on the day merger negotiations begin and ends 16 trading days before the public announcement of the merger. The transaction period starts 5 days after the public announcement of the merger and ends 2 trading days before the completion of the merger.

	Variable of Interest	
	Firm-Originated Media Articles	Market Equity
<i>Active Media Management</i>		
Negotiation period	Higher	Higher
Transaction period	Lower	Lower
<i>Passive Media Management</i>		
Negotiation period	Higher	Higher
Transaction period	Higher	Higher
<i>Opportunistic Acquisitions</i>		
Negotiation period	No difference	Higher
Transaction period	No difference	Lower

period and the transaction period. We compute daily abnormal articles as the ratio of the daily number of articles to the average daily number of articles for the firm in the prenegotiation period. We then take the cumulative sum over time. For comparison in the time trends, we normalize fixed and floating ratio bidders' abnormal counts to zero at 100 days prior to the public announcement in Panel A and at 100 days prior to the close of the merger in Panel B. The figure reveals clear differences. The firms involved in fixed exchange ratio mergers have a marked increase in the number of media articles during the private negotiations, whereas the firms in floating exchange ratio mergers have virtually no change in media coverage until right before the announcement. In Panel B, the pattern is reversed in the transaction period, with a sharper increase in the number of media articles for floating exchange ratio acquirers relative to fixed ratio acquirers.

Figure 3 presents analogous figures for market equity values during the negotiation and transaction periods. Just as media coverage increases more rapidly for fixed exchange ratio bidders during the negotiation period, so does market equity. Similarly, following the public announcement, there is a strong reversal in market equity, with fixed exchange ratio bidders experiencing a marked decline relative to floating ratio bidders.

These figures highlight two important phenomena. First, the timing of increased media coverage is concentrated in a relatively short time span for fixed and floating exchange ratio bidders. Second, the timing of increased media coverage and market equity corresponds directly with the time when a firm has the most to gain from a temporary increase in its stock price: during the negotiations for fixed acquirers and near the close of the merger for floating

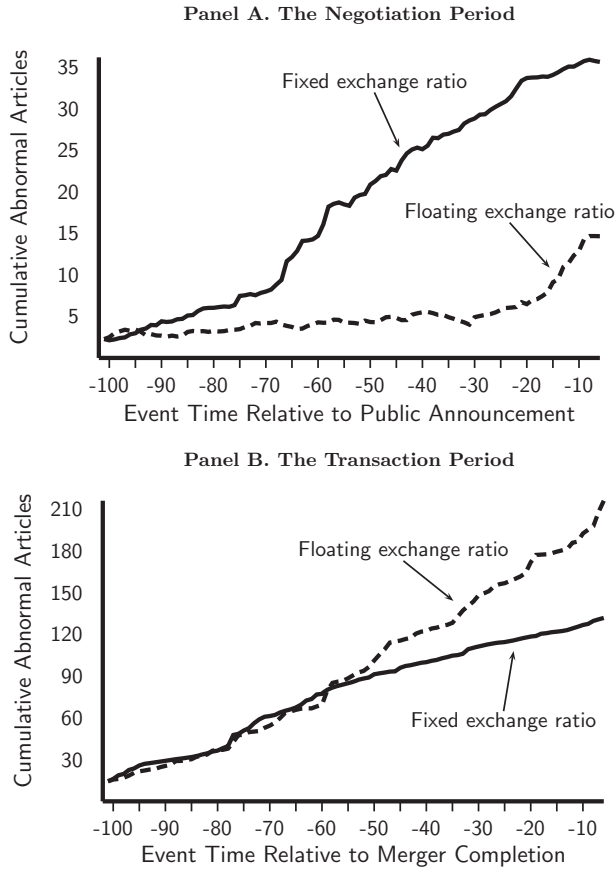


Figure 2. Abnormal acquirer newswire coverage during mergers. This figure presents the average acquirer's cumulative number of abnormal articles from newswires in daily event time relative to the public announcement of the merger in Panel A and relative to the completion of the merger in Panel B. Abnormal articles are calculated as a firm's daily number of articles divided by the average number of daily newswire articles in the prenegotiation period (120 trading days prior to the beginning of merger negotiations). Time series are set to zero at event date -100 for comparison. "Fixed exchange ratio" denotes bidders in stock acquisitions where the number of bidder's shares to be issued for each target share is fixed. "Floating exchange ratio" denotes bidders in stock acquisitions where the number of bidder's shares to be issued for each target share floats to achieve a particular price per target share. Data are from 507 acquisitions during 2000 to 2008.

ratio acquirers. As mentioned previously, we focus our analysis on media coverage of fixed exchange ratio acquirers during negotiations because doing so provides a cleaner test than investigating media coverage of floating exchange ratio acquirers at the close. Nevertheless, the patterns of media coverage are consistent for both types of acquirers.

Though the differences in media attention by merger payment method revealed in Figure 2 are indicative, they are not statistical tests. In Table IV,

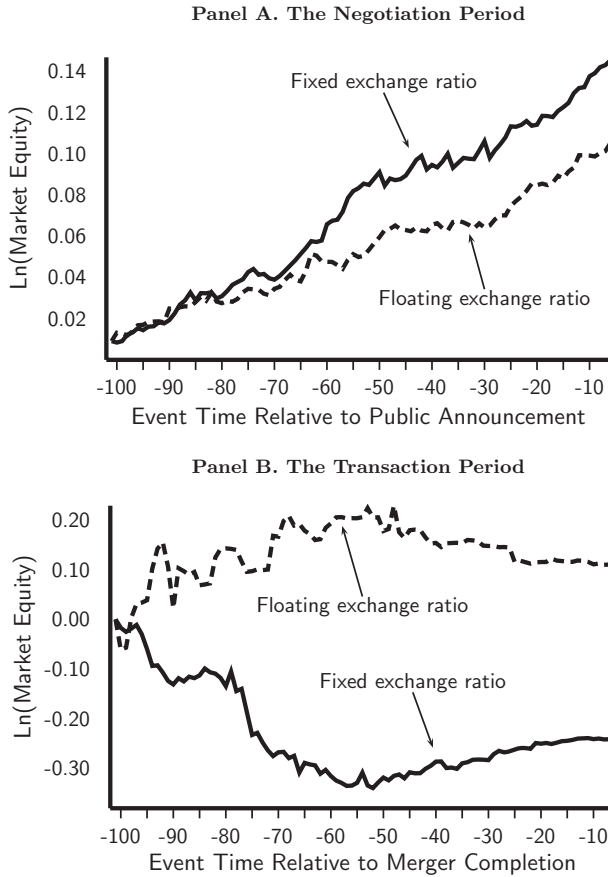


Figure 3. Acquirer market equity during mergers. This figure presents the average acquirer's logged market equity in daily event time relative to the public announcement of the merger in Panel A and relative to the completion of the merger in Panel B. Time series are set to zero at event date -100 for comparison. "Fixed exchange ratio" denotes bidders in stock acquisitions where the number of bidder's shares to be issued for each target share is fixed. "Floating exchange ratio" denotes bidders in stock acquisitions where the number of bidder's shares to be issued for each target share floats to achieve a particular price per target share. Data are from 507 acquisitions during 2000 to 2008.

we present univariate difference-in-differences tests of media coverage in the prenegotiation, negotiation, and transaction periods and for fixed exchange versus floating exchange mergers. In Panel A, we find that fixed ratio acquirers experience a significant increase in media coverage after the start of merger talks. In contrast, floating exchange ratio acquirers receive significantly less media coverage after the start of merger talks. The difference in the differences between fixed and floating is significant as well, consistent with the pattern revealed in Figure 2. On average, fixed ratio acquirers have an increase of 2.3 more articles per day compared to floating exchange ratio acquirers.

Table IV
Univariate Difference-in-Differences Tests of Media Coverage

This table presents averages and univariate *t*-tests of media counts by media source, type of merger payment, and timing of merger negotiations for a sample of 507 mergers over 2000 to 2008. “Prenegotiation,” “Negotiation,” and “Transaction” denote time periods in the merger and are defined in Table I. “Fixed” denotes bidders in fixed exchange ratio stock acquisitions. “Floating” denotes bidders in floating exchange ratio stock acquisitions. Observations are at the firm-day level. *The Wall Street Journal*, *The New York Times*, and *USA Today* are the top three domestic newspaper sources. *Reuters News*, *Dow Jones News Service*, and *Business Wire* are the top three newswire sources. Significance at the 0.01, 0.05, and 0.10 levels is indicated by ***, **, and *.

	Pre- Negotiation	Negotiation	Transaction	Differences		
	(1)	(2)	(3)	(1) – (2)	(1) – (3)	(2) – (3)
Panel A: All Daily Media Articles						
Fixed	3.453	4.409	3.895	-0.955*** (<0.001)	-0.442*** (<0.001)	0.513*** (<0.001)
Floating	4.303	2.931	4.412	1.371*** (<0.001)	-0.110 (0.381)	-1.481*** (<0.001)
Difference	-0.849*** (<0.001)	1.477*** (<0.001)	-0.517*** (<0.001)	-2.327*** (<0.001)	-0.332** (0.019)	1.994*** (<0.001)
Panel B: Top Three Daily Domestic Newspaper Articles						
Fixed	0.149	0.177	0.151	-0.029*** (<0.001)	-0.002 (0.562)	0.026*** (0.006)
Floating	0.157	0.113	0.169	0.044* (<0.001)	-0.012*** (0.099)	-0.056*** (<0.001)
Difference	-0.008 (0.117)	0.064*** (<0.001)	-0.018*** (0.006)	-0.073*** (<0.001)	0.010 (0.257)	0.082*** (<0.001)
Panel C: Top Three Daily Newswire Articles						
Fixed	1.441	1.900	1.665	-0.459*** (<0.001)	-0.223*** (<0.001)	0.236*** (<0.001)
Floating	1.818	1.146	1.926	0.673*** (<0.001)	-0.107* (0.096)	-0.780*** (<0.001)
Difference	-0.377*** (<0.001)	0.754*** (<0.001)	-0.261*** (<0.001)	-1.131*** (<0.001)	-0.116 (0.113)	1.016*** (<0.001)

In Panels B and C of Table IV, we repeat the analysis using the number of media articles in the top three domestic newspapers and in the top three newswires. The results are qualitatively identical. For domestic newspaper coverage, the difference between prenegotiation period and negotiation period media coverage in fixed exchange ratio mergers is a significant 0.07 articles higher per day than the same difference for acquirers in floating exchange mergers. For newswire articles, the difference-in-differences is 1.1 articles, also highly statistically significant.

The difference in media coverage by payment method is economically meaningful. If we multiply the average daily difference in media coverage by 20 trading days to produce a monthly figure, we have 46.5 additional articles from all sources, 1.5 additional articles from the top three domestic newspapers,

and 26.2 additional articles from newswires, on average. Comparing these figures to media coverage in the prenegotiation period as presented in Table I, we find that the additional number of articles in the negotiation period for fixed exchange acquirers compared to floating exchange acquirers represents an increase of 50% for domestic news coverage and 85% for newswire coverage, compared to baseline averages.

Table IV also shows significant differences in media coverage between the transaction period and the prenegotiation and negotiation periods. Consistent with Figure 2, fixed ratio bidders have a decrease in media coverage during the transaction period, compared to the negotiation period, while floating ratio bidders have an increase in media coverage. The difference-in-differences are significant for each of the three measures of media coverage. While these results are consistent with our main hypothesis, as stated before, we put more weight on evidence from the prenegotiation and negotiation periods because they are not contaminated by media coverage directly related to the merger itself. In particular, the significantly greater media coverage in the transaction period relative to the prenegotiation period for both fixed and floating acquirers likely reflects media coverage directly related to the merger. In contrast, the media coverage in the negotiation period is before the public announcement of the merger and not driven by coverage of the merger itself.

Table V presents the coefficient estimates from multivariate fixed effects difference-in-differences tests as in equation (1). In column (1), the dependent variable is the number of media articles from all sources, in column (2) it is daily media articles in the top three newspapers, and in column (3) it is the number of articles in the top three newswires. Observations are over the prenegotiation period and the negotiation period, again up to 16 days before the public merger announcement. We control for time-varying volatility, firm-deal fixed effects, and heteroskedasticity and autocorrelation in media coverage.

The difference-in-differences interaction terms are positive and significant when the dependent variable is either all media or newswires. This indicates that fixed exchange ratio acquirers have a greater increase in media coverage than floating exchange ratio acquirers during the merger negotiation period, after controlling for all firm and deal-level characteristics.

For newswires, we find a negative coefficient on the negotiation period dummy, which indicates that floating ratio bidders are decreasing their newswire coverage compared to the prenegotiation period. This is consistent with the argument that floating ratio bidders have an incentive to withhold news releases during the negotiation period.

The economic significance of the difference-in-differences estimates is substantial. Converting the daily marginal effects into monthly effects by multiplying by 20 trading days, we find that fixed exchange ratio acquirers realize an increase of more than 10% of the mean of newswire press releases during the negotiation period, compared to floating exchange ratio acquirers. There is no effect for newspapers. This is consistent with the active media management hypothesis, as firms can choose to issue more press releases that will affect

Table V
Multivariate Difference-in-Differences Tests of Media Coverage

This table presents coefficient estimates from firm-deal fixed effects regressions of media coverage. The dependent variable is the number of media articles. Observations are firm-days in the prenegotiation and negotiation periods, defined in Table I. “Negotiation period dummy” equals one for observations in the negotiation period and zero for observations in the pre-negotiation period. “Fixed ratio” is a dummy variable equal to one for mergers that use a fixed stock exchange ratio and zero for mergers that use a floating stock exchange ratio. *The Wall Street Journal*, *The New York Times*, and *USA Today* are the domestic newspaper sources. *Reuters News*, *Dow Jones News Service*, and *Business Wire* are the newswire sources. “Sum of turnover_{*t*-1,...,*t*-5}” is the sum of the coefficients of turnover from each day *t* - 1 to *t* - 5. Turnover is daily volume divided by shares outstanding. “Sum of |return_{*t*-1,...,*t*-5} |” is computed analogously, where |return_{*t*} | is the absolute value of the daily return. Heteroskedasticity- and autocorrelation-robust *p*-values are in parentheses. Significance at the 0.01, 0.05, and 0.10 levels is indicated by ***, **, and *.

	All Media (1)	Domestic Newspapers (2)	Newswires (3)
Negotiation period dummy	-0.144 (0.190)	-0.012 (0.114)	-0.129* (0.066)
Negotiation period × Fixed ratio	0.277** (0.044)	-0.001 (0.929)	0.161* (0.062)
Sum of turnover _{<i>t</i>-1,...,<i>t</i>-5}	26.668*** (<0.001)	1.241*** (<0.001)	14.765*** (<0.001)
Sum of return _{<i>t</i>-1,...,<i>t</i>-5}	18.893*** (0.002)	1.324*** (0.001)	12.254*** (0.005)
Sum of return _{<i>t</i>-1,...,<i>t</i>-5} × Fixed ratio	-1.452 (0.833)	-0.281 (0.549)	-2.032 (0.666)
Firm-deal fixed effects	Yes	Yes	Yes
<i>F</i> -test	10.940	8.260	10.080
<i>p</i> -value	(<0.001)	(<0.001)	(<0.001)
Observations	85,808	85,808	85,808

newswire coverage, but are likely to have a harder time influencing newspapers.

Next, we expect that acquirers in all-stock deals have greater incentives to manage their media than acquirers that use a smaller fraction of stock as payment. In tests reported in Table IA.IV in the Internet Appendix, we interact a dummy for all-stock deals with the fixed ratio and negotiation period dummies. We find a positive and significant effect of all-stock deals on media coverage. This implies that media coverage increases more as more stock is used as payment and provides additional evidence that media coverage is driven by the incentives of acquirers to affect their stock price precisely when it is in their best interest.

A.1. Alternative Methods to Account for Skewness in Count Data

In these previous tests, we use raw media counts as our dependent variable, rather than log-transformed media counts. We do this for a number of reasons. First, by using firm-deal fixed effects, much of the skewness in

media counts is eliminated since we are effectively using within-deal deviations from the acquirer's average. Second, prior econometrics research argues that log-transformations are convenient, but tend to produce biased estimates when applied to count data. Abrevaya (1999) shows analytically that coefficient estimates in standard within-transformations of panel data can be biased and inconsistent when the transformation of the dependent variable is unknown. Empirically, O'Hara and Kotze (2010) run Monte Carlo simulations of regressions based on log-transformed count data and find that the log-transformed estimates are substantially biased.

To properly address count data in fixed effects models, Cameron and Trivedi (1998) recommend using a generalized linear model assuming a Poisson distribution of the dependent variable. Starting with Hausman, Hall, and Griliches (1984), Poisson regressions have been used in economics and finance to study discrete count data in a wide range of settings, including patents (Lerner (2006), Lerner, Sorensen, and Strömberg (2011)), airplane purchases (Pulvino (1998)), merger counts (Huizinga and Voget (2009)), and, like our paper, the number of media articles (Core, Guay, and Larcker (2008)). In the special case of count data that contain a large number of zeros (e.g., firm-days with no media articles, which are prevalent in our study), the literature recommends zero-inflated Poisson and negative binomial regressions (Greene (1994)). Therefore, we reestimate our main regressions using each of these specifications suggested for count data: (1) fixed effects Poisson, (2) zero-inflated Poisson, and (3) zero-inflated negative binomial regressions. For completeness, we also run robustness tests using an OLS model with logged media counts and removing fixed effects. Finally, we verify the robustness of our results in a winsorized sample (at the 1st and 99th percentiles) based on firms' time series of article counts. In all of these specifications, we find consistent results that support our main findings. The results are presented in Table IA.V in the Internet Appendix.

In summary, acquirers in fixed exchange mergers have significantly greater media coverage during the merger negotiation period than floating exchange acquirers, controlling for fixed effects, share turnover, and returns. This is true for media coverage from all media sources and coverage in the top three newswires. In addition, we find that the increase in media coverage is larger for newswire articles than for newspaper articles.

The abnormal increase in newswire articles (which are mainly firm-originated news) following the beginning of merger negotiations is inconsistent with the opportunistic acquisitions hypothesis, which posits that acquirers respond to overvalued stock prices by using fixed exchange ratio stock payments. Instead, these results imply that firms are actively generating media coverage by issuing additional press releases. Next, we test the relation between media coverage and stock prices.

Table VI
The Effect of Media Coverage on Market Equity

This table presents coefficient estimates from fixed effects regressions of $\ln(\text{market equity})$. Observations are firm-days in the prenegotiation and negotiation periods, defined in Table I. “Negotiation period dummy” equals one for observations in the negotiation period and zero for observations in the pre-negotiation period. “Fixed ratio” is a dummy variable equal to one for mergers that use a fixed stock exchange ratio and zero for mergers that use a floating stock exchange ratio. “Media source” refers to one of the three categories of media sources as listed in the heading of the table. *The Wall Street Journal*, *The New York Times*, and *USA Today* are the domestic newspaper sources. *Reuters News*, *Dow Jones News Service*, and *Business Wire* are the newswire sources. “Market equity_{*t*}” is the price times shares outstanding on day *t*. “Media_{*t*,...,*t*-5}” is the sum of the coefficients of media from each day *t* to *t* - 5, where the media source is the same as the dependent variable. Heteroskedasticity- and autocorrelation-robust *p*-values are in parentheses. Significance at the 0.01 level is indicated by ***.

Media Source	Dependent Variable: Ln(Market Equity _{<i>t</i>})		
	All Media (1)	Domestic Newspapers (2)	Newswires (3)
Negotiation period dummy	0.105*** (<0.001)	0.102*** (<0.001)	0.106*** (<0.001)
Negotiation period × Fixed ratio	0.036*** (<0.001)	0.040*** (<0.001)	0.034*** (<0.001)
Media _{<i>t</i>,...,<i>t</i>-5}	0.002*** (<0.001)	0.033*** (<0.001)	0.003*** (<0.001)
Media _{<i>t</i>,...,<i>t</i>-5} × Negotiation period	-0.002*** (<0.001)	-0.041*** (0.001)	-0.007*** (<0.001)
Media _{<i>t</i>,...,<i>t</i>-5} × Fixed ratio	-0.001 (0.100)	-0.025*** (0.007)	0.000 (0.680)
Media _{<i>t</i>,...,<i>t</i>-5} × Negotiation period × Fixed	0.003*** (<0.001)	0.044*** (0.001)	0.008*** (<0.001)
Firm-deal fixed effects	Yes	Yes	Yes
<i>F</i> -test	49.500	49.320	48.910
<i>p</i> -value	(<0.001)	(<0.001)	(<0.001)
Observations	85,928	85,928	85,928

B. Does Increased Media Coverage Affect Firm Value?

A positive relation between media coverage and market equity is implicitly assumed in the argument that fixed exchange ratio acquirers actively manage media coverage to improve the terms of trade. We address this implied relationship in this section of the paper.

Table VI presents fixed effects difference-in-differences regressions of the log of market equity on current and lagged daily media coverage, a negotiation period dummy, a payment method dummy, and interactions between these variables. First, market equity is significantly higher in the negotiation period compared to the period before the merger talks began. This is consistent with the run-up in an acquirer’s stock price before a merger (Rhodes-Kropf, Robinson, and Viswanathan (2005)). Second, consistent with prior research, media coverage has a positive and significant effect on stock prices independent of the

timing of mergers or payment method used, with newspaper coverage having the greatest effect (Huberman and Regev (2001)).

The variables most important for the active management hypothesis are the interactions of media and payment method and the triple interaction of media coverage, payment method, and the timing dummy. We find that, over the entire time span, only newspaper coverage has a differential effect on market equity for fixed ratio acquirers compared to floating ratio acquirers, but the marginal effect for fixed ratio acquirers is greater in the negotiation period than in the prenegotiation period for all three types of media coverage. This is consistent with the incentive to attempt to influence stock prices through media during a very specific time period.

The impact of strategic media coverage is economically significant. The increase in the acquirer's price will lead to fewer shares issued. If we use the acquirer price in the prenegotiation period as a benchmark, then multiplying this price times the number of shares that do not need to be issued yields an estimate of the dollar savings from increased media coverage. If V is the deal size and P_t is the acquirer stock price in period t , then the savings in the takeover price from an increase in the bidder's stock price is $V(1 - \frac{P_1}{P_2})$. In unreported tests, we find an average increase in market equity of \$3.53 billion from the prenegotiation to the negotiation period for fixed ratio bidders. Using the average bidder size of \$24.58 billion and average deal size of \$4.44 billion, this translates into a savings of \$558 million, or roughly 12.5%.

Some of this increase in market equity is not driven by media coverage, so we use the marginal effects to calculate a more refined estimate of the cost savings. From Table IV, an average bidder has a 1.131 increase in newswire articles per day from the prenegotiation to the negotiation period, compared to floating ratio bidders. From Table VI, the marginal effect of an additional newswire article for fixed ratio bidders in the negotiation period is 0.004 of $\ln(\text{market equity})$. For the 65 days in the negotiation period, this implies a change in the $\ln(\text{market equity})$ of fixed ratio bidders compared to floating ratio bidders attributable to media coverage of $1.131 \times 0.004 \times 65 = 0.294$, or \$1.34 billion, on average. Using the average fixed ratio bidder size in the prenegotiation period and the average deal size, this generates $4.44(1 - \frac{24.58}{25.92}) = \230 million in savings from additional newswire coverage. This is roughly 5% of the takeover value.

C. Do Prices and Media Coverage Reverse Post-Announcement?

Though the above results imply that a firm can temporarily increase market equity values through active media management, it is unlikely to be an effective long-run strategy. Eventually, the market will adjust its expectations about the value of new information for a firm, or a firm will run out of relevant information and a reversal in the stock price will occur. In contrast, under the passive media management hypothesis, if a firm simply times fixed exchange takeovers to coincide with the release of relevant news that will boost its stock price, no reversal should be observed. To test these hypotheses, in this section

Table VII
Reversals of Market Equity and Media Coverage

This table presents coefficient estimates from fixed effects regressions of $\ln(\text{market equity})$ or the number of newswire articles on day t . Columns (1) and (2) test for changes in the level of market equity. The level of market equity that immediately precedes the merger announcement is the baseline for testing the subsequent valuation adjustments that follow the announcement (dummy = zero for firm-day observations from the end of the negotiation period to 3 days before the announcement). Columns (3) and (4) test for changes in the daily flow of media coverage. The average daily number of articles in the negotiation period when the terms of the merger are being determined is the baseline (dummy = zero for firm-day observations in the negotiation period, as defined in Table I). In (1) and (3), “Announcement period dummy” equals one for observations in the announcement period. In (2) and (4), “Transaction period dummy” equals one for observations in the transaction period. Heteroskedasticity- and autocorrelation-robust p -values are in parentheses. Significance at the 0.01 and 0.10 levels is indicated by *** and *.

	Ln(Market Equity) _{<i>t</i>}		Newswire Articles	
	(1)	(2)	(3)	(4)
Announcement period dummy	-0.005*		3.670***	
	(0.097)		(<0.001)	
Announcement period × Fixed ratio	-0.007*		0.704	
	(0.084)		(0.221)	
Transaction period dummy		-0.012***		0.304***
		(0.002)		(<0.001)
Transaction period × Fixed ratio		-0.008*		-0.189*
		(0.082)		(0.061)
Sum of turnover _{<i>t-1, ..., t-5</i>}			-1.833	22.273***
			(0.681)	(<0.001)
Sum of return _{<i>t-1, ..., t-5</i>}			7.162	7.418
			(0.391)	(0.170)
Sum of return _{<i>t-1, ..., t-5</i>} × Fixed ratio			5.735	1.250
			(0.572)	(0.835)
Firm-deal fixed effects	Yes	Yes	Yes	Yes
F -test	13.900	31.320	12.700	7.620
p -value	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Observations	8,826	55,277	29,723	76,178

we analyze whether fixed exchange ratio acquirers have a different pattern of stock price and media coverage reversal following the merger announcement than do floating ratio acquirers.

In Table VII, we test for evidence of a reversal in market equity and media coverage. We use the same fixed effects difference-in-differences approach again, though now the dependent variable is logged market equity in the first two columns and newswire articles in the last two columns. We use the level of market equity that immediately precedes the announcement as our baseline for the stock price reversal test. For the reversal in media coverage, we use the negotiation period to measure a baseline for the occurrence of media coverage.

First, we find that market equity falls in the announcement period for all acquirers. However, we find a significant and negative difference-in-differences between fixed and floating exchange ratio acquirers, with the fixed exchange

ratio acquirers having a bigger decline in stock prices than floating ratio acquirers. In untabulated results, we find that the cumulative abnormal stock return in the 3-day merger announcement window is -2.5% for floating exchange ratio bidders and -4.1% for fixed exchange ratio bidders, a statistically significant and economically meaningful difference. These results are consistent with negative announcement returns for stock acquisitions of public targets (Andrade, Mitchell, and Stafford (2001), Fuller, Netter, and Stegemoller (2002)), but show that fixed ratio acquirers are driving the large negative returns, even though both types of acquirers are issuing new stock. Similarly, in column (2), we find a reversal in market equity in the transaction period. Market equity is significantly lower for fixed ratio acquirers than for floating ratio acquirers in the transaction period, compared to the period immediately prior to the announcement.

Next, in columns (3) and (4), we find that, as expected, there are significantly more newswire articles in both the announcement period and the transaction period compared to the negotiation period. We find no difference-in-differences for the announcement period, but we find a significant decline in newswire articles for fixed versus floating ratio acquirers, relative to the negotiation period. This provides validation of the reversal in media coverage in Figure 2 after controlling for firm-deal fixed effects.

The economic magnitude of the reversals is substantial. In univariate tests, an average fixed ratio acquirer experiences a larger negotiation period run-up in market value during the negotiation period than does the average floating exchange ratio acquirer (\$3.5 billion versus \$1.3 billion in an average deal) and also realizes a significantly larger decline in market value during the transaction period (roughly a half a billion dollars). Aggregating the marginal impact on acquirer returns for fixed ratio bidders in the announcement period and an average 64-day transaction period suggests an overall decline of 8.5% in the acquirer's stock price. For an average transaction value of \$4.44 billion and an average acquirer size 5 days before the announcement of \$26.7 billion, the decline in acquirer value leads to a takeover price that is \$413.7 million less, or roughly 9.3% of the average transaction value.

These results indicate that, following the announcement, fixed exchange ratio acquirers experience a strong reversal of the increase in market value and newswire coverage experienced during the negotiation stage. These results are inconsistent with the passive media management hypothesis that fixed ratio stock acquirers are simply timing the merger to coincide with relevant news to boost their stock prices and improve their terms of trade. Instead, the stock price reversal we document in this section is consistent with the hypothesis that acquirers temporarily boost their stock price through active media management.

D. The Information Content of Press Releases

In this section, we offer content analysis of the press releases issued by fixed ratio acquirers during merger negotiations. Our analysis focuses on two

dimensions: (1) tone of the text, and (2) importance of the news. To measure article tone, we use textual analysis based on the classification of words as positive, negative, overstated, or understated. To evaluate the importance of news in the press releases, we study the correlation between press releases and newspaper articles, relying on the revealed preferences of journalists.

A number of recent studies show that the tone of media articles has a significant effect on stock prices, even after controlling for the information disclosed in the article (Tetlock (2007), Demers and Vega (2010), Tetlock (2011), Solomon (2012)). In other words, the tone with which a particular piece of news is reported has a significant effect on the market reaction to this news. Therefore, if fixed ratio acquirers attempt to influence their stock prices during merger negotiations, they may do so not only by increasing the volume of news, but also by presenting their news in a more positive way or by withholding disclosure of negative news.

We take two approaches to measure the tone of news. In the first approach, we follow the classification of positive and negative words in financial texts developed in Loughran and McDonald (2011). One advantage of this classification is that it is developed for textual analysis in an economic setting, thus matching the type of disclosures analyzed in our tests. The lists of positive and negative words contain 353 and 2,337 words, respectively, and are downloaded from the web page of Bill McDonald. To illustrate, some examples of positive words in our sample include: achieve, attractive, beneficial, excellent, favorable, improve, outstanding, regain, strengthen, and surpass. Examples of negative words include: adverse, breach, detrimental, erode, penalties, terminate, threaten, unexpected, and unsuccessful.

To develop a simple and replicable measure of article tone, we compute the fraction of positive and negative words in the article and classify an article as positive (negative) if it has an above-average fraction of positive (negative) words. To control for the variation in tone across news sources, we compute the ratio of positive and negative words separately for each media outlet.

We estimate fixed effects difference-in-differences regressions where the dependent variable is the number of positive or negative news stories about the acquirer. These tests are summarized in Table VIII. The evidence in Panel A indicates that, compared to floating ratio acquirers, fixed ratio acquirers experience a significant decline in negative news stories in the negotiation period, as shown by the negative and significant coefficient on the interaction term in column (1). Columns (3) and (5) indicate that the reduction in negative news stories is attributable to firm-originated news, not newspaper articles. The economic magnitude of the change in article tone is nontrivial. A fixed ratio acquirer with median characteristics experiences approximately 10% fewer days with negative newswire articles during merger negotiations than during the prenegotiation period. This evidence is consistent with acquirers' strategy of withholding negative news during merger negotiations or reporting this news in a less negative way, supporting the active media management hypothesis.

Table VIII
The Fraction of Positive and Negative Articles

This table presents coefficient estimates from firm-deal fixed effect regressions of the number of positive or negative articles by media source. An article is positive (negative) if it has more than the average fraction of positive (negative) words calculated separately for each type of media outlet. Positive and negative words are categorized based on Loughran and McDonald (2011). Regressions in Panel A include firm-day observations in the prenegotiation and negotiation periods. Regressions in Panel B include firm-day observations in the negotiation and transaction periods. Time periods are defined in Table I. “Negotiation period dummy” equals one for observations in the negotiation period and zero for observations in the prenegotiation period. “Transaction period dummy” equals one for observations in the transaction period and zero for observations in the negotiation period. “Fixed ratio” is a dummy variable equal to one for mergers that use a fixed stock exchange ratio and zero for mergers that use a floating stock exchange ratio. *The Wall Street Journal*, *The New York Times*, and *USA Today* are the domestic newspaper sources. *Reuters News*, *Dow Jones News Service*, and *Business Wire* are the newswire sources. “Sum of turnover_{*t*-1,...,*t*-5}” and “Sum of |return_{*t*-1,...,*t*-5} |” are defined in Table V. Heteroskedasticity- and autocorrelation-robust *p*-values are in parentheses. Significance at the 0.01, 0.05, and 0.10 levels is indicated by ***, **, and *.

	All Media		Domestic Newspapers		Newswires	
	Negative (1)	Positive (2)	Negative (3)	Positive (4)	Negative (5)	Positive (6)
Panel A: Effects in the Negotiation Period						
Negotiation period dummy	0.018 (0.117)	0.025** (0.027)	0.007 (0.808)	0.007 (0.817)	0.009 (0.538)	-0.003 (0.827)
Negotiation period × Fixed ratio	-0.030** (0.031)	-0.014 (0.319)	-0.029 (0.388)	0.006 (0.856)	-0.040** (0.019)	0.012 (0.507)
Sum of turnover _{<i>t</i>-1,...,<i>t</i>-5}	1.571*** (<0.001)	0.039 (0.889)	0.869 (0.240)	0.902 (0.300)	0.412 (0.290)	0.031 (0.942)
Sum of return _{<i>t</i>-1,...,<i>t</i>-5}	2.698*** (<0.001)	1.193** (0.021)	2.237* (0.055)	2.657** (0.020)	1.603** (0.012)	1.087* (0.096)
Sum of return _{<i>t</i>-1,...,<i>t</i>-5} × Fixed ratio	-1.820 (0.001)	-0.688 (0.224)	0.182 (0.890)	-0.637 (0.620)	-0.727 (0.301)	-0.818 (0.261)
Firm-deal fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
<i>F</i> -test	8.740	2.290	3.870	4.690	3.040	1.070
<i>p</i> -value	(<0.001)	(0.002)	(<0.001)	(<0.001)	(<0.001)	(0.379)
Observations	40,753	40,753	7,671	7,671	24,865	24,865
Panel B: Effects in the Transaction Period						
Transaction period dummy	0.024* (0.051)	-0.043*** (<0.001)	0.020 (0.509)	-0.052* (0.074)	-0.021* (0.077)	-0.048*** (0.001)
Transaction period × Fixed ratio	0.011 (0.476)	0.020 (0.167)	-0.050 (0.159)	0.024 (0.489)	-0.009 (0.512)	0.028 (0.115)
Sum of turnover _{<i>t</i>-1,...,<i>t</i>-5}	2.286*** (<0.001)	-0.895** (0.028)	2.215** (0.028)	-1.518 (0.111)	0.152 (0.694)	0.529 (0.278)
Sum of return _{<i>t</i>-1,...,<i>t</i>-5}	1.655*** (0.002)	0.916* (0.056)	0.560 (0.633)	1.955* (0.063)	2.524*** (<0.001)	1.177** (0.049)
Sum of return _{<i>t</i>-1,...,<i>t</i>-5} × Fixed ratio	-1.209 (0.039)	-0.026 (0.962)	0.242 (0.852)	-0.598 (0.615)	-2.280 (<0.001)	-1.097 (0.107)
Firm-deal fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
<i>F</i> -test	9.220	3.430	2.070	2.700	3.900	2.650
<i>p</i> -value	(<0.001)	(<0.001)	(0.006)	(<0.001)	(<0.001)	(<0.001)
Observations	40,398	40,398	7,274	7,274	25,947	25,947

The change in the tone of media articles during the negotiation period is driven primarily by the reduction in negative news stories rather than an increase in positive news releases. The evidence in columns (2), (4), and (6) of Table VIII shows no effect on positive news stories. One possible explanation for this result is asymmetry in investors' responses to positive and negative news documented in the literature. For example, Tetlock (2007) shows that negative news coverage has a significantly stronger absolute effect on stock prices. Under this interpretation, managing negative news is particularly important for managing stock prices during merger negotiations.

To provide a comparison for the evidence from the negotiation period, we also repeat the tests of the changes in media tone for the transaction period and present our evidence in Panel B of Table VIII. As before, we use the pre-negotiation period as our benchmark for measuring the regular tone of news. The evidence shows that newswire articles become more reserved in their tone after the merger is announced, as indicated by a significant reduction in both positive and negative newswire articles for fixed and floating ratio bidders. This evidence is consistent with the idea that the content of the bidder's press releases becomes more formal and the language becomes less extreme when the merger news becomes public. We do not find any significant differences in the tone of firm-originated news between fixed and floating ratio bidders, as indicated by the insignificant coefficient on the interaction term of the transaction period and the fixed ratio dummy. One possible explanation is that the news is dominated by required disclosures about the upcoming merger, which contain more boilerplate language.

Our second approach to measuring the tone of the news relies on a set of word lists from the Harvard-IV-4 and Lasswell dictionaries provided by General Inquirer. In particular, we use the Overstated and Understated word categories, which capture a firm's attempt to provide a positive subjective interpretation of the news, or "spin." According to General Inquirer, these categories include words "indicating overstatement and understatement, often reflecting presence or lack of emotional expressiveness." To provide evidence on both upward and downward spin, we analyze each word category separately and then use the difference between the two categories as a net measure of exaggeration.

The Overstated category includes 696 words, which indicate an "emphasis in realms of speed, frequency, causality, inclusiveness, quantity or quasi-quantity, accuracy, validity, scope, size, clarity, exceptionality, intensity, likelihood, certainty and extremity." Examples of words from the Overstated list include: colossal, fantastic, huge, reliable, and undoubted. The Understated category includes 319 words, which indicate "de-emphasis and caution." These words can be viewed as downward spin, often indicating weakness, doubt, or uncertainty. Examples of words on this list include: ambiguous, minor, slight, unsatisfactory, and weak.

Because these categories were not developed specifically for financial texts, we design our tests with strong benchmarks to produce more statistical power and minimize noise from context-specific word interpretations. In addition, we design our tests to capture firms' spin over and above the "objective"

interpretation of news, as proxied by the top three national newspapers, on which firms have less influence. The advantage of this methodology is that it controls for time-varying changes in overall market sentiment and for changes in firms' fundamental news.

For overstated words, we calculate a variable at the daily level that takes the value of one if the difference between the fraction of overstated words in the top three newswire articles and the fraction of overstated words in the top three domestic newspapers is greater than the 75th percentile, within the firm's time series of this difference from the prenegotiation period to negotiation period. The variable takes the value of negative one if the difference is less than the 25th percentile, and takes the value of zero otherwise. Using an analogous classification, we compute similar variables for understated words and for the difference in the fraction of overstated minus the fraction of understated words.

In Table IA.VI in the Internet Appendix, we report the results from the tests of spin. Using the same difference-in-differences firm-deal fixed effects tests as in the rest of the paper, we find that fixed exchange ratio bidders use significantly fewer understated words in their press releases during the negotiation period, relative to domestic newspapers and floating ratio bidders. We find similar evidence that the net overstated–understated fraction is positive and significant for fixed ratio bidders relative to floating ratio bidders during the negotiation period. These results are consistent with active media management and indicate that firms tend to spin their news by increasing the appearance of confidence in their press releases by reducing the indication of doubt, caution, or uncertainty.

To complement the textual analysis of news, we study the extent to which firm-originated news during merger negotiations is reported by newspaper journalists. Though newspapers derive much of their news coverage from press releases, they must select the news that would be of greatest importance to their readers. We posit that acquirers that are attempting to influence their stock price through media management may be forced to issue press releases that contain less important information for investors in the negotiation period compared to the prenegotiation period. Since newspapers selectively choose the most important information, the correlation of newswire to newspaper articles will decrease if the additional press releases are less informative. Instead, if firms are timing acquisitions to take advantage of positive new information, the content of the newswire articles during the negotiation period should be at least as important, if not more important, than the newswire articles published during the prenegotiation period. Therefore, under the alternative hypothesis, the change in the correlation between the number of newspaper and newswire articles should be nonnegative.

We test this hypothesis by regressing the number of articles in newspapers on the number of current and lagged newswire articles, controlling for firm-deal fixed effects, using three different measures of newspaper articles. In unreported tests, we find that there is a positive and significant correlation between newspaper articles and newswire articles, as expected, and that this correlation is not significantly different for fixed and floating ratio bidders in

the prenegotiation period. However, during the merger negotiation period, the correlation between firm-originated news and newspaper articles drops by 9.1 percentage points, or by approximately two-thirds for fixed ratio acquirers. This implies that the fixed exchange ratio acquirers are producing more press releases during the merger negotiations than before merger talks begin, but newspapers are providing less coverage of these press releases than normal, presumably because they contain less important information.

Overall, the results in this section suggest that acquirers in fixed exchange ratio mergers actively manage media coverage not only by increasing the number of press releases, but also by managing the tone of reported news. In contrast, newspapers are less likely to report this news and show no change in the tone of their articles. Taken together, this evidence indicates that changes in the amount and tone of firm-originated news reflect active media management by acquirers, rather than the coincidence of merger negotiations with periods of good news.

IV. The Response to Media Management

The results in the prior sections provide strong evidence that firms actively manage their media coverage during merger negotiations, which is associated with a significant run-up and reversal in stock prices. The incentives for acquirers to manage their media are clear. It is less clear, however, why investors respond to active media management. Second, how do target firms respond to active media management? This section investigates these questions.

A. Investors' Response to Media

We consider two possible explanations for investors' response to media coverage during mergers. On the one hand, rational investors may update prices in response to new information. On the other hand, the run-up and reversal in acquirer stock prices could be explained by investors' overreaction to news.

First, the pattern of price run-up and reversal we document is consistent with a rational updating of prices by investors. Since the true extent of media management is unlikely to be perfectly observable to any party outside of the media-managing firm, there is always a nonzero probability that firm-originated news contains value-relevant information, and, consequently, affects prices. Before investors are aware of the merger, media management is more effective, since it is more difficult to distinguish active media management from regular variation in the quantity and tone of fundamental news about the firm. When investors become aware of the upcoming merger at the announcement, they are likely to revise upward the probability that news is strategically managed by the firm. Therefore, the stock price of the bidder corrects at the merger announcement, reflecting the reinterpreted view of the previously issued news. In addition, future news issued by the firm before the completion of the merger will be significantly discounted but will continue to influence stock prices,

unless investors can perfectly detect the extent of media management in each disclosure by the firm.

We investigate this explanation empirically. First, we examine the market reaction to news issuance by repeat acquirers that have past histories of mergers and media coverage that are consistent with active media management. When these firms make a subsequent acquisition, we expect that, all else equal, rational investors will respond less to their news releases. At the same time, these firms are likely to have greater capabilities for media management, since they have more experience and since acquisitions play a greater role in their corporate strategy. Therefore, we anticipate a higher increase in press release issuance by these bidders during merger negotiations.

To test the predictions about repeat acquirers, we create a dummy variable that identifies deals in which (1) the acquirer had a prior merger in our sample where it used a fixed exchange ratio, (2) the acquirer's media coverage from all sources and market equity increased from the prenegotiation period to the negotiation period during the prior merger, and (3) the acquirer had reversals in its stock price during the announcement and transaction periods. We then interact this dummy variable with the fixed exchange ratio dummy and the negotiation period dummy. In Table IA.VII in the Internet Appendix, we find that newswire coverage increases at a significantly greater rate for these acquirers in the negotiation period, but the main effect of their media coverage on market equity is reduced, independent of whether a fixed or floating ratio is used in the subsequent mergers. This evidence is consistent with the view that investors discount news issued by repeat acquirers that are likely to be actively managing their media. We also find evidence that investors rationally respond to media coverage of floating ratio acquirers. Since the period when the number of shares to be issued by floating ratio acquirers occurs after the announcement of the merger, we expect that the news issued during this period will be discounted by the market. As shown, floating ratio bidders significantly increase the issuance of press releases before the close of the merger (the period when the floating exchange ratio is set). However, untabulated results indicate that this news generates a significantly weaker market reaction, compared to news issued by fixed ratio bidders, before the deal is publicly announced.

While the evidence so far suggests that investors' response to media management does not rely on investor irrationality, the active media management hypothesis does not rule it out. For instance, the evidence in previous research shows that investors exhibit behavioral biases that may result in overreaction to news (Odean (1999), Barber and Odean (2000)). In particular, previous studies show that an increase in a stock's media coverage may temporarily increase investor attention to this stock, resulting in a price run-up followed by a subsequent correction. Much of the existing research on media and finance is consistent with this idea (Huberman and Regev (2001), Tetlock (2007), Barber and Odean (2008)). This research on financial media shows that investors' overreaction to news is more pronounced for glamor stocks (e.g., high market-to-book; high-tech industry) and stocks with larger retail ownership. If this is true, acquirers with such characteristics should be more likely to attempt to

use media coverage to affect their stock prices. In Section V.A, we review cross-sectional patterns in media coverage and find evidence that supports these predictions.

Overall, it is likely that the market's reaction to news management in our setting reflects a combination of a rational response to value-relevant news as well as a transient component driven by a possible overreaction to firms' spin.

B. Media and Merger Gains

Although our evidence so far indicates that firms manage their media coverage during merger negotiations, it is unclear whether this strategy affects merger outcomes. On the one hand, a target may be able to accurately infer the extent of media management and fully adjust its demands in negotiations. In this case, media management will have no effect on merger outcomes. On the other hand, if a target cannot perfectly observe the true extent of media management in acquirers' disclosures, there is always a positive probability that an acquirer's news release reflects accurate, value-relevant information. Under this assumption, media management can affect the terms of the merger even when the negotiating parties are informed. This section seeks to distinguish between these alternatives.

To study the effect of media management on merger outcomes, we examine the distribution of merger gains and losses between the target and the acquirer within the same merger, using a measure of relative gains proposed by Ahern (2012). This measure is calculated as the dollar abnormal announcement return of the target minus the dollar abnormal announcement return of the acquirer, divided by the pre-merger sum of the acquirer and target market values. The dollar abnormal announcement return is the percentage abnormal stock return multiplied by market value. This measure captures the difference in dollar values realized at the announcement, under the assumption that the announcement return is the best predictor of the merger gains. Using dollar values accounts for the large difference in the sizes of acquirers and targets in a typical merger. In addition, using the difference in dollar returns allows for negative returns. We expect that, cross-sectionally, those acquirers that have negotiated better terms will receive more gains relative to the target, compared to acquirers with worse terms.⁷

As mentioned earlier, we do not focus our attention on targets in this paper because targets' incentives do not change over time while those of acquirers do. However, we would like to measure the target's media management strategy, since it likely affects the target's gain relative to the acquirer. Therefore, for all targets in the 507 mergers in our sample that have Factiva intelligent

⁷ Because large stock price reversals for fixed exchange ratio bidders are consistent with active media management, negative announcement returns could indicate that the acquirer negotiated a favorable exchange ratio, a counterintuitive result. However, if acquirers have successfully negotiated a favorable exchange ratio, we would also expect low target announcement returns as the market revises the target value based on the expected offer price.

indexing codes, we collect the same media data as we collected for acquirers. Factiva codes are primarily assigned for larger firms, which limits our sample size to 101 targets after accounting for all data filters. We also collect data on other variables known to affect the relative merger gains, including market-to-book (Rhodes-Kropf and Robinson (2008)), relative value, size, and industry relatedness (Ahern (2012)).

As reported earlier, targets in our sample tend to be smaller than their acquirers. Similarly, targets have substantially less media coverage than acquirers. In the prenegotiation period, the median number of articles about a target from all media sources is roughly 26% of the median number of articles about an acquirer. The median number of target newswire articles is about 46% of the number of acquirer newswire articles. The difference in articles from all media sources and newswires indicates that the larger acquirers normally issue moderately more press releases, but that newspapers and other media sources are much more likely to cover the larger firms compared to the smaller targets. Targets and acquirers are more similar along other dimensions. In particular, the average (median) market-to-book of an acquirer is 3.46 (2.23), compared to 3.06 (2.29) for targets.

We first provide evidence that targets increase their media coverage during negotiations. Like fixed exchange ratio bidders, all targets have an incentive to increase their stock price during the negotiation period only. Therefore, as we do for fixed ratio bidders, we compare targets' media coverage to floating exchange ratio bidders in the negotiation period. In Table IA.VIII in the Internet Appendix, we report the results from difference-in-differences fixed effects regressions during merger negotiations that are identical to our main specifications. We find that targets have a significant increase in media coverage during the negotiation period, compared to floating exchange ratio bidders. This is consistent with the idea that targets manage their media coverage during the period when doing so is most beneficial.

Next, we turn to our tests on the role of media coverage in the division of merger gains between the target and the acquirer. Our variables of interest are the number of media articles on the acquirer and the target in the negotiation period. Since our variable of interest, the relative gains of the acquirer and target, is time-invariant for each merger, we cannot control for firm-deal effects in this setting. Therefore, we normalize the media counts using the firms' prenegotiation averages. Table IX presents coefficient estimates from OLS cross-sectional regressions where the dependent variable is the target's dollar gain relative to the acquirer's gain.

We find that targets that have greater media coverage during the negotiation period have larger relative dollar gains compared to targets with less media coverage, whether measuring media coverage with newswire or newspaper articles. In addition, greater newswire coverage, but not newspaper coverage, of the acquirer significantly reduces the share of gains captured by the target. This means that media coverage during the negotiation period has an economically meaningful effect on the bargaining outcome of targets and acquirers. A one standard deviation increase in the acquirer's newswire coverage leads to an

Table IX
Media Coverage and the Division of Merger Gains

This table presents coefficient estimates from cross-sectional OLS regressions of the merger gains of targets relative to acquirers. The dependent variable is the difference between the dollar announcement return of the target and the dollar announcement return of the acquirer, divided by the aggregate market equity of the two firms 2 days prior to the announcement. Dollar abnormal returns are firms' returns minus the equally weighted CRSP index return, multiplied by market equity, and aggregated over the 3 days around the announcement. *The Wall Street Journal*, *The New York Times*, and *USA Today* are the domestic newspaper sources. *Reuters News*, *Dow Jones News Service*, and *Business Wire* are the newswire sources. "Acquirer (target) media" is the average number of daily media articles of the acquirer (target) during the negotiation period, normalized by the firms' average number of media articles during the prenegotiation period. "Fixed ratio" is a dummy variable equal to one for mergers that use a fixed stock exchange ratio and zero for mergers that use a floating stock exchange ratio. "Acquirer (Target) M/B" is the market-to-book ratio of the acquirer (target), calculated as in Fama and French (1992). "Relative value" is the takeover price divided by the market value of the acquirer 2 days before the announcement. "Acquirer (Target) assets" is the total assets of the acquirer (target). "Same industry" is a dummy equal to one if both firms are in the same Fama–French 49 industry code. "Percent cash" is the fraction of the takeover price paid in cash. Robust firm-clustered *p*-values are in parentheses. Significance at the 0.01, 0.05, and 0.10 levels is indicated by ***, **, and *.

	Dependent Variable = Target Gain Relative to Acquirer			
	Media = Newswires		Media = Domestic Newspapers	
	(1)	(2)	(3)	(4)
Acquirer media	-0.008*	-0.017***	0.038	-0.088
	(0.066)	(0.004)	(0.510)	(0.522)
Target media	0.068*	0.158***	0.463***	0.468**
	(0.071)	(0.001)	(0.005)	(0.017)
Acquirer media × Target media	-0.018	-0.069*	0.355	-0.603
	(0.585)	(0.053)	(0.572)	(0.637)
Fixed ratio		0.021		0.016
		(0.170)		(0.284)
Fixed ratio × Acquirer media		0.006		0.141
		(0.516)		(0.368)
Fixed ratio × Target media		-0.144***		-0.163
		(0.007)		(0.480)
Fixed × Acquirer media × Target media		0.097**		0.969
		(0.020)		(0.491)
Acquirer M/B	0.000	0.001	0.000	0.001
	(0.881)	(0.660)	(0.959)	(0.721)
Target M/B	-0.003	-0.003	-0.003	-0.003
	(0.328)	(0.287)	(0.409)	(0.345)
Relative value	0.001	0.000	-0.002	-0.002
	(0.898)	(0.964)	(0.779)	(0.801)
Acquirer assets	-0.403	-0.560*	-0.913***	-0.807***
	(0.141)	(0.063)	(0.002)	(0.003)
Target assets	0.000	0.000	0.000	0.000
	(0.961)	(0.642)	(0.320)	(0.457)

(Continued)

Table IX—*Continued*

	Dependent Variable = Target Gain Relative to Acquirer			
	Media = Newswires		Media = Domestic Newspapers	
	(1)	(2)	(3)	(4)
Same industry	−0.006 (0.682)	−0.003 (0.834)	−0.011 (0.451)	−0.009 (0.539)
Percent cash	−0.051** (0.011)	−0.039* (0.056)	−0.047** (0.017)	−0.037* (0.060)
Constant	0.093*** (<0.001)	0.072*** (0.004)	0.096*** (<0.001)	0.081*** (0.001)
Adjusted R^2	0.073	0.126	0.117	0.133
Observations	101	101	101	101

additional acquirer gain of 0.07 dollars per every dollar in pre-merger combined market equity. This compares to an average normalized acquirer gain relative to target gain of -0.04 . This means that an acquirer's dollar gain relative to the target's dollar gain is 11% higher than average when it has a one standard deviation increase in newswire coverage.

Overall, the evidence in this section suggests that media management can have a significant effect on merger outcomes. These results support our earlier evidence that media management can be an effective strategy even when the agents are informed.

V. Robustness and Alternative Hypotheses

In this section, we provide a number of robustness checks and extensions of our main results.

A. *The Determinants of Abnormal Media Coverage*

In this subsection, we investigate the effect of media on merger negotiations using only the within-group variation among fixed exchange ratio bidders. By looking only at fixed exchange ratio bidders, this provides a robustness check on any selection bias in our prior results that may be caused by the choice of fixed versus floating exchange ratios. Though all fixed exchange ratio acquirers have an incentive to influence their stock price during the negotiation period, firms that are hard to value are more likely to use this method than others. In addition, firms with more retail investors, as opposed to institutional investors, may also be more likely to attempt to use media coverage to affect their stock prices since retail investors may be more prone to respond to media coverage.

To test these hypotheses, we regress the amount of abnormal media coverage in the negotiation period on proxies for the difficulty of firm valuation and the presence of retail investors. First, we use a dummy variable for above-median

market-to-book as a proxy for growth firms. The larger intangible option value inherent in growth firms may make it easier for them to spin news to the media. Second, we use a dummy variable for high dispersion in analysts' earnings forecasts. We calculate the coefficient of variation for the most recent analyst earnings forecasts before the announcement date of the merger using data from I/B/E/S. We then create a dummy variable equal to one for firms with above-median coefficients of variation in analysts' expectations. Third, we use a dummy variable for high-tech industries to proxy for the difficulty of valuation. For firms whose primary industry is in the Fama–French 49 industry classifications of Computer Hardware (35), Computer Software (36), or Electronic Equipment (37), this dummy variable equals one, for all others it is zero. Our final proxy for the difficulty of valuation is R&D/Assets. To measure ownership composition, we record the percentage of institutional investors in the firm in the most recent reporting period before the merger announcement, using 13f filings from Thomson Financial. Since these are cross-sectional regressions, we cannot use firm-deal fixed effects. Instead, we normalize media coverage by the average daily media coverage in the prenegotiation period.

The regression results in Table X support the hypothesis that firms that are harder to value have greater media coverage during the negotiation period. Firms with above-median market-to-book ratios, firms with above-median dispersion in analyst forecasts, and firms in high-tech industries have significantly greater abnormal newswire coverage. High R&D expenditures are negatively related to newswire coverage. Institutional ownership is significantly negative, consistent with the idea that retail investors are more likely to respond to information in the media than are institutional investors. The effects for newspaper coverage are muted, though qualitatively similar to the effects for newswires. This confirms our prior evidence that newspapers are less susceptible to active media management strategies.

We also interact the explanatory variables with the negotiation period dummy. We find that the same effects listed are more pronounced during the negotiation period compared to the prenegotiation period. For example, firms in high-tech industries have 0.21 more newswire articles per day than non-high-tech industry firms in the prenegotiation period, but 1.3 more articles per day in the negotiation period.

Overall, the results in this section are consistent with the notion that firms in fixed exchange ratio mergers wish to influence stock prices before acquisitions, but those firms in which media is especially important for market prices, namely, hard to value firms, experience the greatest effect. Since more information should make the firm easier to value, reverse causation (more media creates greater analyst forecast dispersion, for example) is unlikely to explain these results. Thus, these results provide additional evidence that firms actively manage media before a merger, controlling for possible sample selection bias.

Table X
Characteristics of Firms with More Active Media Management

This table presents coefficient estimates from OLS regressions of media coverage of acquirers from the top three domestic newspapers or top three newswires. Observations are firm-days in the prenegotiation and negotiation periods, as defined in Table I for fixed exchange ratio acquisitions only. *The Wall Street Journal*, *The New York Times*, and *USA Today* are the top three domestic newspaper sources. *Reuters News*, *Dow Jones News Service*, and *Business Wire* are the top three newswire sources. “High market-to-book” (denoted “Market-to-book” in the interaction terms) is a dummy variable equal to one for firms with above median market-to-book ratios, within the sample. “High analyst dispersion” (denoted “Analyst dispersion” in the interaction terms) is a dummy variable equal to one if the coefficient of variation of analysts’ earnings forecasts for the acquirer in the most recent forecasting period before the merger announcement is above the median for the sample firms. “High-tech industry” (denoted “High-tech industry” in the interaction terms) is a dummy variable equal to one for acquirers in Fama–French 49 industries Computers (35), Software (36), or Electronics (37). “Institutional ownership” is the fraction of shares owned by institutions on the most recent reporting date before the merger announcement. “High R&D/Assets” (denoted “R&D/Assets” in the interaction terms) is a dummy variable equal to one for above-median R&D/Assets. “Negotiation period dummy” (denoted “Negotiation” in the interaction terms) equals one for observations in the negotiation period and zero for observations in the prenegotiation period. “Sum of turnover_{*t*-1, ..., *t*-5}” is the sum of the coefficients of turnover from each day *t* - 1 to *t* - 5. Turnover is daily volume divided by shares outstanding. “Sum of |return_{*t*-1, ..., *t*-5} |” is computed analogously, where | returns_{*t*} | are absolute values of daily returns. Heteroskedasticity- and autocorrelation-robust *p*-values are in parentheses. Significance at the 0.01, 0.05, and 0.10 levels is indicated by ***, **, and *.

	Domestic Newspapers		Newswires	
	(1)	(2)	(3)	(4)
High market-to-book	0.020*	0.020**	0.444***	0.286***
	(0.061)	(0.028)	(<0.001)	(<0.001)
High analyst dispersion	0.007	-0.003	0.467***	0.154**
	(0.572)	(0.746)	(<0.001)	(0.023)
High-tech industry	0.028	0.029*	0.873***	0.451***
	(0.210)	(0.076)	(<0.001)	(<0.001)
Institutional ownership	-0.032***	-0.029***	-0.424***	-0.148*
	(0.002)	(0.007)	(<0.001)	(0.067)
High R&D/Assets	-0.008	-0.011	-0.156***	-0.107**
	(0.273)	(0.150)	(0.001)	(0.044)
Negotiation period dummy	0.016	0.003	0.495***	0.231
	(0.261)	(0.881)	(<0.001)	(0.139)
Book assets	0.003***	0.003***	0.026***	0.025***
	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Negotiation × Market-to-book		-0.003		0.432**
		(0.883)		(0.020)
Negotiation × Analyst dispersion		0.030		0.882***
		(0.311)		(<0.001)
Negotiation × High-tech industry		-0.001		1.294***
		(0.986)		(0.003)
Negotiation × Institutional ownership		-0.009		-0.987***
		(0.804)		(0.003)
Negotiation × R&D/Assets		0.006		-0.401*
		(0.773)		(0.062)

(Continued)

Table X—Continued

	Domestic Newspapers		Newswires	
	(1)	(2)	(3)	(4)
Sum of turnover _{<i>t</i>-1,...,<i>t</i>-5}	0.263 (0.499)	0.293 (0.402)	-7.769** (0.020)	-3.923 (0.217)
Sum of return _{<i>t</i>-1,...,<i>t</i>-5}	0.187 (0.634)	0.183 (0.648)	-3.197 (0.221)	-2.507 (0.334)
Constant	-0.014 (0.404)	-0.009 (0.550)	-0.345*** (0.003)	-0.204** (0.049)
<i>F</i> -test	5.340	5.140	3.790	4.080
<i>p</i> -value	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Observations	20,974	20,974	20,974	20,974

B. Insider Trading during Negotiations

If the management of an acquirer is actively trying to increase its stock price using the media, managers who know their stock is overvalued may try to exploit their inside information by selling shares. In this case, we could use insider selling to help identify overvalued shares. On the other hand, our main hypothesis is that the management of acquiring firms strategically uses the media to make acquisitions at reduced prices. Insider sales would send a negative signal to the market, which would be counterproductive to efforts to push up the stock price. Since insider trades are made public almost immediately in the post-Sarbanes–Oxley period that covers most of our sample, the market is likely to react to this information immediately. Further, insider sales may send a negative signal to the target and threaten the deal’s completion. If the bidder’s management doesn’t want to hold its own shares, why would target shareholders? If a deal does not materialize, the bidders’ insiders will likely lose significant bonuses that they receive for deal completion. Previous research shows that such bonuses for completed acquisitions can be in the millions of dollars (Grinstein and Hribar (2004)).

In Table IA.IX in the Internet Appendix, we empirically test whether there is more insider trading during the run-up period for acquirers. We collect data from the TFN Insider database for trades by officers of acquirers. Following convention, we only include open market purchases or sales, delete observations marked as inaccurate or incomplete (“cleanse” field of S or A), and only include observations that record all of the following information: the number of shares traded, the date, and the price per share in the transaction. Using these data, we run firm-deal fixed effect difference-in-differences regressions, following our main specification, on the number of net shares traded (purchases minus sales). This specification isolates the change in the difference between fixed and floating acquirers’ insider trading activity, from before negotiations to the negotiation period.

We find no significant effects in the bidders’ trading activity. We also run a second specification in which we only include nonzero trading days, since the

large number of days with no insider activity may bias the results. We again find no significant effects. These results suggest that, though there is a documented run-up in the stock price during the negotiations, insiders do not trade on this information, likely because of a combination of strategic considerations and monetary incentives associated with deal completion.

C. Merger Rumors as a News Driver

One of the key insights of this paper is that we identify abnormal media coverage before the public announcement of the merger using ex post data to construct the period when merger negotiations begin. This approach assumes that the media articles that occur before the public merger announcement do not contain rumors about the merger. Though the acquirer does not have any incentive to reveal its merger plans before the announcement (since it may attract additional bidders), and we are conservative by restricting attention to the period at least 16 days before the merger announcement, it may be possible that the media coverage we identify is somehow related to the upcoming merger.

To address this concern, we reestimate our tests using a conservative filter to exclude deals for which news about an upcoming merger may have leaked into the press, or for which there is speculation about a merger. In particular, we exclude any deal where at least one of the following merger-related words appears in the title of any article about a bidder in the top three domestic newspapers during the negotiation period: merge, merger, merges, bid, bids, acquire, acquires, acquirer, acquisition, and takeover. This is a relatively strict filter, since some of the deals are excluded even if an article focuses on a merger by a different acquirer and a different target, but discusses the firm of interest for other reasons. This filter reduces the sample from 507 to 444 deals.

In Panel A of Table IA.X in the Internet Appendix, we report the results from tests on the effect of payment method on media coverage using this subsample. Our results are largely consistent with our main results. In particular, we find a positive and significant difference-in-differences effect of fixed ratio bidders in the negotiation period on media coverage, as in our main tests. While we do not claim that there is no information leakage before the merger announcement, these results provide strong evidence that our results are not driven by merger speculation in the media.

D. Collars

In our main tests, we do not separately identify mergers with price collars. A price collar creates a hybrid between fixed and floating exchange ratios (Officer (2006)). For example, a collar on a floating exchange ratio might be designed to change the exchange ratio to a fixed ratio if the acquirer's stock price is outside of a predetermined price range during the period when the exchange ratio is determined. For the purposes of identification, collars will attenuate differences in incentives of acquirers in fixed and floating ratio deals. Thus, our

main results likely understate the true intensity of media management in an unconstrained setting. We address collars explicitly in two robustness tests.

First, in Panel B of Table IA.X in the Internet Appendix, we verify that our main results hold after excluding deals that include collars as reported in SDC. Compared to the full sample, when we omit deals with collars from the analysis, the magnitude and statistical significance of the coefficient estimate on newswire coverage increases. This result confirms the intuition that the use of collars attenuates differences in the incentives of fixed and floating bidders and that removing these hybrid deals strengthens the evidence on media management.

Second, in columns (2) and (3) of Table IA.IV in the Internet Appendix, we exploit the terms of the collars to identify variation in the incentives of firms. To measure the protectiveness of a collar, we measure the width of the collar as the percentage point difference from the upside to the downside, relative to the base price. Following our main specifications, in a sample of collared deals, we interact a dummy variable for above-median protectiveness of the collar with the negotiation period dummy and the negotiation period \times fixed ratio dummy. We find that, in deals with more protective collars, the number of media articles for fixed ratio bidders is significantly smaller than that for fixed ratio bidders with less protective collars. This is consistent with the idea that a more protective collar reduces a fixed ratio bidder's incentive to manipulate its stock price during the negotiations. To provide more general evidence, we also estimate a model with three dummy variables: no collar, weak collar, and strong collar, where strong collar is the most protective. We find that strong collars have the greatest impact on media management. In contrast, the effect of a weak collar is statistically indistinguishable from the effect of having no collar, likely because weak collars do not bind a bidder's media management strategy. In summary, after accounting for price collars' impact on bidders' incentives, our main results are strengthened.

E. Analysts' Forecasts

We have argued that press releases are a particularly attractive way for a firm to influence its stock price. However, we acknowledge that firms may also use other channels to try to influence their stock prices. Though we document patterns in media coverage consistent with active media management, one may be concerned that the effects of media coverage on stock prices are actually driven by an alternative channel. One alternative channel of influence is for bidders to influence analysts' recommendations.

To address this alternative, we study changes in analysts' earnings forecasts and recommendations during merger negotiations, using the same identification strategy as in our tests of media coverage. We collect analysts' estimates and recommendations from I/B/E/S at the daily level based on the announcement date of the forecast or recommendation. In difference-in-differences firm-deal fixed effects regressions, we find no significant change in analyst earnings forecasts or stock recommendations for the acquirers from the prenegotiation

period to the negotiation period. This conclusion holds for both fixed and floating acquirers (with no significant difference between the two groups), and it is robust to using various time windows for analysts' forecasts: one quarter, 1 year, and 2 years. These results show that the run-up in the stock price of fixed ratio bidders is not driven by changes in analysts' recommendations or forecasts. The results are presented in Table IA.XI in the Internet Appendix.⁸

Alternative channels are possible, but to the extent that firms use other strategies, these variables must operate at a daily level, be robust to firm-deal fixed effects, and vary systematically between fixed and floating ratio bidders precisely at the time of merger negotiations. Our evidence shows that one of the most likely alternative channels, analysts' recommendations, is not driving the effect of media coverage on stock prices.

F. Good Firms that Make Bad Acquisitions

An alternative interpretation of our results is that the increase in media coverage during merger negotiations reflects an improvement in operating performance, but the larger stock price correction for fixed exchange ratio bidders at the announcement indicates that a bidder chose a fixed exchange ratio because its management knew the merger would be viewed unfavorably by the market. To test the first prediction, we use changes in analysts' forecasts and recommendations, detailed earlier, as a proxy for the change in a firm's operating performance. This proxy has several advantages. First, analysts' forecasts are forward looking, reflecting changes in firms' operating performance even if these changes do not have an immediate impact on reported financials. Second, analysts' forecasts are updated frequently and allow for various time horizons of projections. As reported, we find neither significant change in analyst earnings forecasts or stock recommendations for acquirers from the prenegotiation period to the negotiation period, nor any significant difference between fixed and floating exchange ratio acquirers. In contrast, during the same time period, our main results show that media coverage increases for fixed exchange ratio bidders relative to floating ratio bidders. These results imply that the increase in firm-originated news is unlikely to reflect improvements in operating performance.

We also provide evidence that the increase in firm-originated news is unlikely to reflect improvements in operating performance. If the increase in firm-originated news is unrelated to the merger, we should expect to see (1) an equal increase in media coverage for fixed and floating ratio bidders during negotiations, and (2) continuation of the news after the announcement of the merger. In contrast, we find that fixed and floating ratio bidders have significant differences in media coverage during the negotiations. Second, in

⁸ The evidence on analyst forecasts is consistent with prior literature in finance and accounting that shows that firms' influence on stock analysts has been dramatically reduced or nearly eliminated by Regulation FD (Cohen, Frazzini, and Malloy (2010)), which covers the vast majority of our sample.

Table VII, we show that the issuance of press releases by fixed ratio bidders reverses in the transaction period, relative to floating exchange ratio bidders. Given the short time periods we study, the quick reversal in the issuance of news releases appears inconsistent with a sustainable improvement in operating performance.

The second testable prediction posits that the market reacts negatively to the merger announcement because fixed ratio bidders are making bad acquisitions. To measure ex post deal quality, in Table IA.XII in the Internet Appendix, we compare long-run stock returns from fixed ratio deals to those from floating ratio deals. Using holding periods of 1 to 5 years for a portfolio formed by taking long positions in bidders of floating ratio deals and short positions in bidders of fixed exchange ratio deals, we run standard calendar-time regressions on the Fama–French (1992) factors plus the Carhart momentum factor (Mitchell and Stafford (2000)). The coefficient on the intercept is economically small and statistically insignificant for all holding periods. This evidence indicates that fixed exchange ratio bidders do not make systematically worse deals, to the extent that deal quality is reflected in long-run stock returns. In sum, neither of the two predictions of the alternative hypothesis is supported by the data.

G. Reverse Causality

It is possible that the strong positive association between an increase in news coverage and stock returns results from the coverage of extreme stock returns of the bidder. Consistent with the opportunistic acquisition hypothesis, strong performance of the bidder's stock may attract the attention of news reporters or financial analysts, resulting in additional articles related to the acquirer's stock. This prediction matches the observed increase in media coverage and market equity prior to the merger.

We address this concern in several ways. First, in our main tests, we explicitly control for lagged stock returns and turnover to account for a delay in reporting. Second, in all of our tests, we use media coverage that excludes stock pricing and market data, an option provided by Factiva. We also eliminate articles with fewer than 50 words, since they are the most likely to contain market content. Finally, to address the possibility that the bidder's extreme stock performance leads analysts or news reporters to write an article about the bidder, we eliminate all press releases that contain the word "stock" in the headline. After imposing previous filters, the number of such articles is small (7.1%) in our sample and has no effect on our conclusions.

VI. Conclusion

Combining novel hand-collected data on the timing of merger negotiations with a comprehensive data set of media coverage, this article studies one of the main channels of active corporate communication with investors—press releases—during some of the largest investments in the life of the firm. Our results highlight an interesting pattern in a firm's communication with investors

when management has strong incentives for favorable valuation. In particular, fixed exchange ratio bidders dramatically increase the number of press releases disseminated to financial media during the private negotiation of a stock merger, compared to floating exchange ratio bidders, who do not have an incentive to manage their media during the merger negotiation. This effect is associated with short-lived increases in both media coverage and bidder valuation.

We examine several hypotheses that may account for the observed pattern and find that our evidence is most consistent with an active media management explanation. In particular, we argue that firms issue press releases as a mechanism to raise their stock value temporarily by generating more media coverage. While the volume of news stories increases, the number of articles with a negative tone and downward spin decreases during merger negotiations. We estimate that active media management reduces the takeover costs for an average acquirer by between \$230 million and \$558 million, or 5% and 12% of the takeover price. Evidence of subsequent stock price reversals and lower correlation between firm-originated news and newspaper coverage contradicts the argument that the firm is timing the merger to coincide with the release of good news. The dramatic increase in firm-originated news after the start of merger negotiations contradicts an explanation based on firms taking advantage of passively derived overvaluation. However, all of these empirical facts are consistent with active media management in an attempt to improve the terms of the merger.

We also investigate how investors and target firms respond to an acquirer's media management strategy. We show that the efficacy of media management does not necessarily presume investor irrationality. In particular, investors respond less to acquirer-originated news when it is more likely that the firm is pursuing a strategy of active media management, namely, for repeat acquirers and for news released during the close of the merger. We also find that active media management has an effect on the gains of the target relative to the acquirer, consistent with its purpose. A greater increase in media coverage during merger negotiations increases a firm's share of the merger gains.

The results of this paper suggest a new role for media in financial markets. In contrast to the view that the information contained in media articles increases the efficiency of a market, we show that the press can be strategically used by firms to advance their own interests. The strategic use of media by firms is likely to affect many corporate actions beyond mergers, such as executive compensation, stock issues and repurchases, proxy contests, and product market competition.

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