Shareholder voting and disclosure in M&As[*]

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Abstract

We examine whether voting requirements in M&As induce disclosure, lowering information asymmetry. We find that acquirers subject to shareholder voting provide more 8-K disclosure during the transaction period, and are more likely to provide timely disclosure of the merger agreement, information on expected synergies and post-merger earnings forecasts. For acquirers subject to voting, we document that the association between disclosure and bid-ask spread is more negative than in other acquirers, and the association between disclosure and transient institutional sales is more positive. Lower bid-ask spread and higher transient institutional sales are associated with higher voting support and likelihood of deal completion. These results suggest that the induced disclosure is informative and it can affect voting outcomes through changing the deal valuation and the shareholder base. Evidence from falsification tests and a regression-discontinuity design supports the causal interpretation of the positive effect of shareholder voting on disclosure.

JEL classification: G14, G34, G38

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1 Introduction

A series of recent regulations, laws, and court rulings give more power to shareholders, spurring the academic debate on the effectiveness of shareholder voting (Cox et al., 2019; Levit et al., 2020; Becht et al., 2021).[1] Theoretical studies argue that shareholder voting increases value by aligning the interests of shareholders and managers (Bebchuk, 2004; Harris and Raviv, 2010). In a similar vein, empirical studies in the M&A literature find that shareholder voting adds value for acquirer shareholders by affecting firm cash flows positively. Specifically, voting makes managers choose targets with greater synergies and offer lower premiums (Becht et al., 2016; Li et al., 2018). However, shareholder voting may not lead to optimal decisions because shareholders lack the specific information that managers possess (Bainbridge, 2005; Matsusaka and Ozbas, 2017).

In this paper, we study how managers react to uninformed voting concerns, and examine whether managers who care about voting outcomes communicate their private information to shareholders to improve their voting decisions. Specifically, we study whether the shareholder voting requirement in M&As induces public disclosure and increases firm value by reducing information asymmetry. M&As provide an excellent setting to understand how shareholder voting requirements influence disclosure, given particularly high investors' demand for disclosure and cross-sectional variation in voting requirements.[2]

Corporate disclosure policy is shaped by costs (e.g. production costs, proprietary costs, and litigation risk) and benefits (e.g. lower information asymmetry and costs of capital) (Beyer et al., 2010). In the context of M&As, when a deal is subject to shareholder voting, directors and managers can use disclosure to improve voting outcomes in at least two ways. First, increased disclosure can reduce information asymmetry, raise investors' valuation of the deal, and hence increase the approval rate. Given the highly asymmetric and complex information in M&As, voluntary disclosure by managers, especially disclosure of information conveying estimates of synergies and deal value, can

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[1]Some reforms includes the NYSE's *2009 Amendment of Rule 452* that limited the ability of brokers to vote shares held in customers' brokerage accounts, the *Dodd–Frank Act of 2010* that required nonbinding shareholder votes on executive compensation, the *2017 EU Shareholder Rights Directive II* that required intermediaries to transmit relevant information from the company to the shareholder to facilitate their exercise of shareholder rights and ensured the shareholder right to vote on remuneration, and the *2018 Amendments to Canada Business Corporations Act* that required annual elections of directors with a separate vote for each candidate and majority voting for directors in uncontested elections.

[2]In the absence of variation in shareholder voting requirements, it is difficult to examine effects on corporate policies, hence many papers indirectly study the impact of shareholder voting outcomes on corporate policies (Armstrong et al., 2013).

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play an important role in helping investors understand and value the transaction. Second, timely disclosure (well before the record date) can trigger trades that alter the shareholder base towards a more supportive one,[3] whereby unsupportive investors sell to supportive ones as they expect ex ante high likelihood of approval for M&A proposals. As a result, firms subject to shareholder voting are likely to provide more disclosure and on a timelier basis than firms not subject to shareholder voting.[4] However, managers may pursue their own private benefits and undertake M&As that are not in the best interest of shareholders (Morck et al., 1990). Then, managers of firms subject to shareholder voting may not provide more disclosure, or may in fact provide even less, than those without the voting requirement in an attempt to hide their expropriation purposes.

To empirically investigate how shareholder voting requirements affect disclosure, we hand collect data of a large sample of U.S. M&A transactions for the period 1995-2019. Acquirers are subject to shareholder voting if they intend to issue more than 20% of shares outstanding to finance their deals, are incorporated in certain states, or meet other special conditions. We find that acquirers subject to shareholder voting provide more 8-K disclosure during the transaction period from the announcement to the closing date. They are also more likely to provide: (i) timely disclosure of the merger agreement, (ii) expected synergy information, and (iii) post-merger earnings forecasts. We find that these associations are stronger for acquirers with more disperse institutional ownership and higher analyst coverage. This suggests that managers increase disclosure when public communication may be more necessary or more effective to increase shareholder turnout and voting support.

These results are robust to a number of robustness tests. In falsification tests using target firms or past disclosure, we do not find evidence on the effect of shareholder voting on disclosure. We also exploit the 20% threshold in a fuzzy regression discontinuity design (RDD) using all-stock deals. We find confirmatory evidence of a positive

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[3]Only shareholders who hold shares by the record date are eligible to vote. Disclosure and resulting trades after the record date do not matter for the shareholder-voter base. In our sample, the record date is typically in the middle of the transaction period from the announcement to closing date.

[4]The consulting firm McKinsey & Company supports this view when discussing the 2015 Royal Dutch Shell's acquisition of BG Group. According to McKinsey & Company, the offer was attractive to the target, but Royal Dutch Shell leaders understood that their own shareholders might disagree with the transaction. They took care to *share* with stakeholders the potential synergies calculations and the strategic rationale for the move. They also offered real-time updates on the process with about 15 press releases. The offer was, therefore, approved with acceptance rates well over 80 percent. See Bahreini et al. (2019). More generally, the work of Bahreini et al. (2019), which reviews more than 2,500 deals between 2013 and 2018, finds that one of the most often cited reasons for deal termination is mismatched expectations about synergies and value creation. This finding further confirms the interest firms might have in disclosing information about deals.

and economically significant effect of shareholder voting on disclosure. These findings indicate that the voting requirement is a strong driver of firms' willingness to disclose.

Our findings suggest that disclosure by acquirers subject to shareholder voting is more informative than disclosure by acquirers without the voting requirement.[5] One concern is that this additional, timelier disclosure by firms worrying about voting outcomes may not offer value-relevant information to investors. For example, 8-K filings may contain trivial information about the transactions or information that is already known to the market.[6] Information that is not value-relevant will not influence investors' trading and/or voting decisions, and thus, disclosure of such information is not expected to be driven by voting outcome concerns in the first place. Furthermore, existing evidence indicates that 8-K filings are in general informative to financial market participants (Lerman and Livnat, 2010; Bird and Karolyi, 2016). While these arguments and evidence support our view that shareholder voting ameliorates the information environment via enhanced disclosure, we conduct several tests to explore this issue more fully.

We start by looking at disclosure informativeness through stock prices. Specifically, we study the relationship between 8-K disclosure and the average bid-ask spread. If the released documents have information content, the bid-ask spread should be lower as information asymmetry is reduced (Glosten and Milgrom, 1985; Leuz and Verrecchia, 2000). We find that the relationship between 8-K disclosure and the average bid-ask spread is more negative for acquirers subject to shareholder voting. This effect is also reflected in higher firm value captured by higher buy-and-hold abnormal return. This is consistent with disclosure induced by the voting requirement is informative.

Next, we examine disclosure informativeness manifested in stock trading. To investigate whether disclosure affects stock trading, we focus on transient institutional investors because their trading is more sensitive to news than the trading of quasi-indexer and dedicated institutional investors. We expect that disclosure by acquirers subject to voting triggers sales from transient institutional investors. This is because institutional investors are less management-friendly and are more likely to oppose deals than retail investors (Malenko and Shen, 2016; Lee and Souther, 2020; Brav et al., 2021). We find that 8-K disclosure is more positively and significantly related to sales from transient

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[5]It is unlikely that such disclosure is just a form of overoptimistic cheap talk to influence investors, given theoretical evidence that managers have incentives to provide reliable information because overoptimistic information could attract product market competition or harm managers' reputation (Gigler, 1994; Stocken, 2000). Empirically, we also examine specific disclosure such as information on expected synergies and post-merger earnings forecasts which are to some extent verifiable, and hence, unlikely just cheap talk.

[6]See Carter and Soo (1999) and Lerman and Livnat (2010) for further discussions.

investors in firms subject to voting relative to firms without voting. Also, for firms subject to voting, the association between 8-K disclosure and purchases from transient investors is more negative. We do not find a similar pattern for quasi-indexer and dedicated institutional investors likely because their investment strategies are less sensitive to news than those of transient investors. These results suggest that investors are not indifferent about the information released and that they trade accordingly.

Finally, we verify if lower bid-ask spread and higher transient institutional sales are indeed related to better voting outcomes. We find that bid-ask spread is negatively associated with the percentage of votes in favor of the deal and the likelihood of deal completion. Meanwhile, transient institutional sales are positively associated with the voting support and likelihood of deal completion. Overall, our results suggest that disclosure by acquirer firms subject to voting is more informative and has the potential to improve voting outcomes through increasing investors' valuation of deals and altering the shareholder base towards a more supportive one.

We make a number of contributions. First, we contribute to the literature on disclosure. While prior work traditionally focuses on disclosure motives such as capital market transactions and equity-based compensation, our paper adds to an emerging strand of literature that examines voting outcomes concerns (Dimitrov and Jain, 2011; Baginski et al., 2014; Lee and Souther, 2020). In a contemporaneous paper, Mukhopadhyay and Shivakumar (2020) find that firms provide more information on key performance indicators in their proxy materials following the say-on-pay mandate. We propose and provide evidence on a novel mechanism for how disclosure can influence voting outcomes. Our evidence suggests that disclosure triggers trades and shifts the shareholder base towards a more supportive one. In addition, by studying the M&A setting, we are able to exploit rare cross-sectional variation in shareholder voting and examine context-specific disclosure such as merger agreements, expected synergies, and post-merger earnings.

Second, our paper adds to the literature on shareholder voting and corporate governance (Yermack, 2010; Iliev et al., 2015). While certain benefits from strong shareholder voting rights have been documented, commentators and theorists are still concerned that due to shareholders' lack of information about the firm, outcomes of shareholder voting may depart from the superior choices managers would otherwise make. Our paper addresses this concern and documents evidence that, subject to shareholder voting, managers have incentives to provide useful information to shareholders prior to voting. This empirical evidence resonates with Harris and Raviv (2010)'s theoretical emphasis on communication of private information between managers and shareholders when considering who should have control over corporate decisions. Becht et al. (2016) and Li

et al. (2018) find that shareholder voting adds value for acquirer shareholders by affecting firm cash flows positively. Our results suggest that shareholder voting can add value through another channel, i.e. lower information asymmetry and costs of capital.

Third, we contribute to the extant work on the role of financial reporting and disclosure in M&As.[7] The studies closest to ours are those investigating acquirers' use of earnings management (Erickson and Wang, 1999) or press releases (Ahern and Sosyura, 2014; Kim et al., 2020) before the announcement to influence stock prices. Our paper adds to this literature by examining the use of a different set of disclosures from the announcement onward for the purpose of influencing voting outcomes.

Our results also have implications for regulators. In many countries, shareholder approval is required for only a subset of acquirers, potentially resulting in shareholder losses in acquisitions not subject to approval (Iliev et al., 2015; Becht et al., 2021). Taken together with recent evidence on shareholder voting, our results offer initial support that institutional reforms that enhance shareholder voting rights can be beneficial in the context of M&As. Particularly, when information asymmetry is high. Disclosure regulations such as the SEC (2020)'s consideration of mandating more disclosure in M&As (e.g. synergy information) should also take into account that significant voluntary disclosure is already provided as a by-product of the shareholder voting requirement.

2   Prior literature and hypotheses development

Directors and managers care about outcomes of shareholder voting on their M&A proposals for several reasons. First, shareholder voting on M&A proposals is binding, so they need shareholder approval to complete the deals. Firm charters and state laws of incorporation can make it harder to pass a deal by considering a quorum and/or supermajority instead of majority, and/or voting rights instead of vote cast (Burch et al., 2004; Kamar, 2006). Management may even want to minimize the disapproval rate since significant dissenting votes can have serious implications in terms of job security and career (Cai et al., 2009; Fischer et al., 2009; Aggarwal et al., 2019). Therefore, managers may employ various strategies to influence voting outcomes, including disclosure.

Literature shows that corporate disclosure policy is shaped by costs and benefits (Beyer et al., 2010). Disclosure entails both production (e.g. managerial effort) and

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[7]See Raman et al. (2013), Marquardt and Zur (2015), McNichols and Stubben (2015), Francis et al. (2016), Chen et al. (2018), Chen (2019), Bonetti et al. (2020).

proprietary costs (e.g. revealing information to competitors in product markets, labor unions, or regulators). Managers also face litigation risk when disclosing forward-looking information (Cazier et al., 2020). Disclosure, however, can reduce information asymmetry, increase liquidity, and hence lower the cost of capital (Leuz and Verrecchia, 2000; Balakrishnan et al., 2014). The benefits of disclosure may be higher when an M&A proposal is subject to shareholder approval because disclosure can help improve voting outcomes. In other words, the costs of *non-disclosure* are probably higher when a deal is up for vote since lack of information about the deal can result in low voting support and rejection of the proposal.

Disclosure can influence shareholders' voting decisions and outcomes in at least two ways. First, in the presence of information asymmetry, investors discount the value of the firm to the point that managers are better served to disclose what they know (Verrecchia, 1983).[8] In equilibrium, managers disclose information when it is sufficiently favorable (e.g. information revealing that asset values are expected to be high) so that the benefits of disclosure exceed its costs. In the context of M&As, for some high-quality deals in which the net benefit of disclosure is marginally negative, managers do not disclose private information. Due to information asymmetry, these deals may be pooled with lower-quality deals and heavily discounted by investors. The voting requirement increases the benefits of disclosure (or the costs of non-disclosure) for these deals because they would likely face more votes against and risk being blocked by shareholders without disclosure. In other words, when a M&A proposal is subject to shareholder voting, managers might be more inclined to disclose information to reduce information asymmetry, and hence increase both investors' valuation of the deal and the approval rate.[9]

Consistent with the idea that when shareholder voting is required, firms provide shareholders with more information to gain their voting support, Mukhopadhyay and Shivakumar (2020) find that firms provide more information on key performance indicators in their proxy materials following the say-on-pay mandate. Iliev et al. (2015) find significantly lower levels of shareholder support for managers and boards' proposals in countries with low levels of corporate disclosure.

It is worth noting that information asymmetry can be interpreted broadly in the presence of information processing costs (Blankespoor et al., 2020). While a large amount

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[8]In unravelling models (Grossman, 1981; Milgrom, 1981), buyers unambiguously interpret withholding information as unfavorable and assume the product of low quality, so sellers' best strategy is a full disclosure.

[9]Panel A and B of Figure A1 illustrate this point.

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of information will eventually become available prior to voting in mandatory disclosure (e.g. proxy statements), the high costs of processing such sheer complexity and volume of information can hinder investors from evaluating the deal effectively and making an informed vote.[10] Grossman and Stiglitz (1980) and Kim and Verrecchia (1991) show that higher information processing costs result in lower average precision of investors' beliefs about future cash flow, which incentivizes managers to provide voluntary disclosure (Jung and Kwon, 1988; Verrecchia, 1990). The theory, therefore, suggests that managers provide voluntary disclosure, especially information that facilitates estimation of the deal value such as management forecasts and guidance, to help investors evaluate the deal. Guay et al. (2016) indeed find that firms provide more voluntary disclosure in the form of 8-K filings, management forecasts, and press releases to deliver information that would be otherwise costly to extract from complex financial statements.

Second, timely disclosure can trigger trades that change the shareholder base towards a more supportive one. Levit et al. (2020) show that when shareholders expect high likelihood of proposal approval, unsupportive shareholders sell shares to supportive shareholders, resulting in a more supportive shareholder base and proposals are approved more often. This is likely the case in an M&As context, where shareholders can expect ex ante high likelihood of proposal approval as most proposals subject to shareholder voting are approved in practice.[11] Cox et al. (2019) find that targets in M&A deals experience substantial ownership changes after the deal announcement. In their study, the extent to which ownership changes is positively associated with the likelihood of deal completion.

Timely disclosure is particularly important in affecting voting outcomes because (i) it takes time for shareholders to process the amount and complexity of information about M&A deals before making trading/voting decisions, and (ii) only shareholders who hold shares by the record date are eligible to vote, so disclosure and resulting trades made *after* the record date would not matter for the voter base.

Against this backdrop, we predict that firms subject to shareholder approval in M&As provide more disclosure, and that they disclose on a timelier basis than firms not subject to such approval. These predictions are not without tension. Indeed, the literature has shown that managers often pursue their private benefits and undertake M&As that are

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[10]Proxy statements provided to investors prior to voting, for instance, are very lengthy, typically between 100-200 pages plus additional exhibits. Complex transactions such as M&As often have high processing costs because of their idiosyncrasy, the special knowledge required, and the quantity and detail of information involved (Blankespoor et al., 2020).

[11]This is probably because managers only propose and put the deal up for a vote if it is likely to be approved (Becht et al., 2016).

not in the best interest of shareholders ([Morck et al., 1990]). Then, we would expect no positive effect of shareholder voting requirement on disclosure. This is because the more information about the transaction that is revealed, the more likely shareholders find out that it is a value-destroying deal and vote against it. [Berger and Hann] (2007) indeed find that managers withhold information about poorly performing segments. We state our first set of hypotheses as follows:

> **H1a:** *Firms subject to shareholder voting on M&As provide more disclosure than firms not subject to shareholder voting.*
>
> **H1b:** *Firms subject to shareholder voting on M&As provide timelier disclosure than firms not subject to shareholder voting.*

As we predict that firms subject to voting on M&As provide more and timelier disclosure, especially disclosure of information that conveys managers' estimation of the deal value, we also expect disclosure by these firms to be more informative than that by firms without the voting requirement. One concern is that when M&A deals are subject to voting managers do provide more disclosure and on a timelier basis, but it may just contain information about value-irrelevant aspects of the transactions. If that is the case, such disclosure will likely be ignored by investors and hence have no effect on their trading and/or voting decisions.[12] Therefore, if managers want use disclosure to influence voting outcomes, that disclosure should provide useful information. Overall, the extent to which the disclosure induced by the voting requirement is informative is an empirical question of interest. This discussion leads us to our second hypothesis:

> **H2:** *Disclosure by firms subject to shareholder voting on M&As is more informative than disclosure by firms not subject to shareholder voting.*

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[12]In a similar vein, it might be that such disclosure is just a form of cheap talk through which managers disclose overoptimistic and non-verifiable information to influence investors. Then, we would expect that disclosure is not informative because it does not reveal managers' private information and investors also respond by ignoring the disclosure ([Stocken, 2000]). Theoretical work, however, suggests this is unlikely, because providing overoptimistic information can attract product market competition or harm managers' reputation, so managers have incentives to provide reliable information ([Gigler, 1994]; [Stocken, 2000]).

3 Research design

3.1 Institutional setting

In the U.S., a corporate combination is structured as a merger or a tender offer. We focus on mergers because of their unique disclosure timeline as well as because shareholder voting is rare in tender offers.[13] In a merger, boards of directors of the acquirer and the target agree on a price, and the target's shareholders then vote upon whether or not to approve the proposal. While shareholder approval is required for all targets, shareholder approval is not always required for acquirers. According to the listing rules of the NYSE, AMEX, and NASDAQ, when an acquirer intends to issue more than 20% of new shares to finance a deal, shareholder approval is required prior to the issuance. Certain deals may be subject to exceptions or voting requirements due to other conditions.[14] Most states adopt the same rule in their corporate law except for Alaska, Louisiana, Missouri, and New York.[15]

Figure 1 illustrates the timeline of a typical M&A deal. The median duration of the transaction period from the *announcement date* to the *closing date* is 132 days. Firms provide a variety of public disclosure during this period. In general, after a confidential negotiation period, the acquirer and target sign a merger agreement and jointly issue a press release announcing the deal to the public. The date when this press release is issued is the *announcement date.* This short press release includes basic information about the deal and parties involved and often, it also contains forward-looking information such as expected synergies and earnings post mergers. Managers may also organize a conference call to discuss the deal with investors and analysts. Within four business days following the entry into the merger agreement, firms are required to file a current report (8-K) to timely inform investors about the event, setting forth material terms and conditions of the agreement. The full merger agreement, which offers substantial additional details,

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[13]In a tender offer, the acquirer offers to buy shares from the target's shareholders, who then choose whether or not to sell at the offer price. Mergers account for the vast majority of the deals in practice. Mergers and tender offers are also different in many dimensions such as motives, execution and public disclosure. By excluding tender offers, we compare a more homogeneous group of acquisition deals.

[14]For instance, AMEX and NASDAQ require shareholder voting if any director, officer or substantial shareholder of the acquirer has a 5% or greater interest in the target. AMEX also consider a series of closely related transactions may be regarded as one transaction for the purpose of voting policy. Exceptions may be made upon application to NYSE/NASDAQ when (i) the delay in securing stockholder approval would seriously jeopardize the financial viability of the enterprise and (ii) reliance by the company on this exception is expressly approved by the audit committee.

[15]Before adopting the 20% threshold in 2015, Louisiana required shareholder approval if the acquirer issued 15% or more new shares of its existing shares outstanding. The other three states, however, still mandate shareholder approval for stock deals regardless of the amount issued.

is a document that typically spans 50-100 pages, as compared with the shorter Form 8-K. The merger agreement may be filed as an exhibit to this 8-K. If not filed together with the 8-K, the merger agreement must be included in a periodic report (10-Q or 10-K) covering the period in which the agreement is entered into. Several weeks or months after the announcement, the target and acquirer file their proxy statements if shareholder approval is required. Typically, only shareholders who hold shares by the *record date* set by firms are eligible to vote on the matters at the meeting.

3.2 Data and variables

Table A2 and Appendix A.2 describe our sample construction and data collection processes, respectively. We begin our data collection with a sample of M&As between U.S. public companies that we obtain from the SDC database. Deals with undisclosed deal value or unknown outcome are excluded. As we focus on (statutory/one-step) mergers, we filter out tender offers, spinoffs, recapitalizations, self-tenders, exchange offers, repurchases, acquisitions of minority or remaining interest, and privatizations. We also require that both the acquirer and the target are covered in CRSP, and that the entry into the merger agreement is verified from EDGAR filings. We are left with 3,278 deals for the period 1995-2019.

We collect data on shareholder voting requirements and disclosure from EDGAR filings. Shareholder approval is not required for all acquirers. We search for information on whether the deal is subject to the acquirer's shareholder approval in various EDGAR filings. The variable *Vote* is equal to 1 if the acquirer is subject to shareholder voting and 0 otherwise.

We also collect the announcement press release for each deal and the 8-K filing of the merger agreement for each firm if available. For each firm, the variable *Agmt_filing* is equal to 1 if the acquirer files the merger agreement within 15 days since the entry into the agreement, and 0 otherwise.[16] This variable captures the timely disclosure of the merger agreement, one of the most important materials in M&As. Coates et al. (2019) find that stock prices of targets and acquirers react to the filing of merger agreements

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[16]In some cases, firms use other types of filings instead of Form 8-K. We use 15 days because before 2004, firms can have up to 15 days to file an 8-K since the event date. Firms may not file merger agreements soon after the announcement for various reasons, including proprietary costs. For example, Asarco and Cyprus announced their entry into the merger agreement on July 15th, 1999. Asarco filed an 8-K on July 20th without the agreement attached. In a letter sent to CEOs of Asarco and Cyprus on August 11th to propose a three-way combination, Phelps Dodge Corp said: "We are disappointed that you have declined to meet with us.[...] Since your merger agreement has not been publicly filed, we have not had the opportunity to review its terms".

and the reactions reflect the contract clauses.

For each deal, we also create a dummy variable to capture disclosure of information on expected synergies created by the deal. The variable *Exp_synergies* is equal to 1 if the announcement press release includes one of the synergy-related words, namely *synergy, synergies, cost saving(s)*.[17] The importance of synergy information is emphasized by industry professionals as illustrated in McKensey's discussion of Royal Dutch Shell's acquisition of BG Group (Bahreini et al., 2019). SEC (2020) also proposed to mandate synergy disclosure in the amendments to its financial disclosure requirements relating to business acquisitions and dispositions to make M&A disclosure more useful and to hold issuers more accountable for their synergy estimates. However, SEC made it optional in the final rule due to concerns about the uncertainty and subjectivity of synergy expectations, the burden of preparing the disclosure and the potential liability, among others.

While synergy information is useful for investors to understand the deal quality and rationale behind the transaction, it has some drawbacks. It is not straight-forward for unsophisticated investors and not easy to verify ex post. For these reasons, we also analyze whether managers provide post-merger earnings forecasts that are arguably more straightforward and verifiable. We construct a binary variable, *E_forecasts*, equal to 1 if the announcement press release contain word combinations conveying information about post-merger earnings proposed by Amel-Zadeh and Meeks (2019).[18]

Finally, for each firm, we count the number of 8-K filings during the transaction period to capture overall disclosure. As 8-K filings are *current* reports, they reflect not only the quantity but also timeliness of disclosure. The variable *Ln_8k* is the logarithm of 1 plus the number of 8-K filings. We also create *Size_8k*, which is the logarithm of 1 plus the number of 8-K filings, because it may also capture variation in disclosure

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[17]For example, the press release announcing the 2019 merger between Rubicon Project and Telaria states: *"The merger creates both revenue and cost synergies, with expected annual run rate cost synergies of approximately $15-20 million."* In the press release of another deal, *"SouthBanc and Heritage estimate cost savings opportunities between the companies to equal 40% of Heritage's annualized operating expenses, or approximately $1.6 million pre-tax, primarily as a result of the elimination of employee benefit plans."* While there could be a long list of words describing synergies (e.g. Filip et al., 2021), our chosen words are directly and specifically about synergies. Moreover, from our experience reviewing press releases, those words are often accompanied by some quantitative estimates which increase the disclosure credibility. We obtain qualitatively the same results if we use SDC data on the disclosure of synergy estimates. Data on this information is not available in SDC in early years of the sample though.

[18]An example of such a combination is "earnings"+"accretive". In the press release announcing the acquisition of MainSource Financial Group, *"First Financial expects the transaction to be accretive to 2018 diluted earnings per share by $0.09 or 5%, and total 2019 diluted earnings per share by $0.17 or 9%."*

of each filing. With these variables, we count both 8-K filings about the deal and 8-K filings about other matters as we believe that a 8-K filing does not need to be about the deal in order to affect shareholders' voting decision and outcome. Nonetheless, we create another variable, *Ln_8k_rlt*, that measures disclosure related to the merger by counting only 8-K filings mentioning the other party's name.[19]

Control variables include deal and firm characteristics. Specifically, we control for deal value relative to firm market capitalization, whether the deal is financed entirely with cash, whether the deal is between firms from the same industry, and the duration of the transaction period. We also control for firm characteristics in the quarter before the merger, including stock return and volatility, institutional ownership, analyst coverage, market-to-book ratio, return on assets, whether firms have losses, and financial leverage. Table A1 provides definitions of all variables.

Figure 2 plots the distribution of 8-K filings from 7 days before to 150 days after the announcement and 8-K filings for the same period in the previous year. We can see that the number of 8-K filings is stable throughout the period in the previous year. In the transaction year, there is a sharp increase in the number of filings on the announcement date and the following week. The number of filings on days after that week are still higher compared to the previous year level, though the difference becomes less noticeable.

Table A3 presents information content of 8-K filings during the transaction period. Not surprisingly, many filings contain items that seem directly related to M&As such as "Entry into a Material Definitive Agreement" or "Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers". Other items that appear frequently include "Financial Statements and Exhibits", "Other Events", "Regulation FD Disclosure", and "Results of Operations and Financial Condition".

Table 1 reports summary statistics for acquirer firms. We can see that on average acquirers file six 8-K filings during the transaction period of 5 months. Around three quarters of acquirers provide timely disclosure of the merger agreement; 40.5% of them discuss synergies in their announcement press releases. About 65.6% of press releases talk about future earnings post mergers. Acquirers are subject to shareholder approval in 41.3% of the deals. Table A4 reports statistics for target firms. Compared with acquirers, targets tend to be smaller, followed by less analysts, and have worse operating

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[19]Table A5 shows that results are robust to (i) other measures such as the number of voluntary 8-K filings, the number of 8-K items or the number of exhibits, (ii) count data and count model instead of log transformation, and (iii) controlling for past disclosure.

performance.

4 Empirical analysis

4.1 Between deal variation

4.1.1 Shareholder voting and disclosure

We start our analysis examining how between-deal variation in the shareholder approval requirement explains acquirers' disclosure. Figure 3 displays the distribution of 8-K filings per firm around the announcement. It shows that acquirers with voting on average file more 8-Ks on the announcement date and days after than those without voting. Table 2 formally compares acquirers with and without the voting requirement. T-tests indicate that the former discloses more in terms of 8-K filings than the latter. They are also more likely to provide timely disclosure of the merger agreement and information about expected synergies and post-merger earnings. It is worth noting that the two groups are also different along several dimensions. For instance, deals in which acquirers subject to voting are larger in relative term, are more likely to be financed by stocks, and take more time to close. Controlling for deal and firm characteristics, therefore, is important to isolate the effect of voting on disclosure.

We thus use OLS to estimate the following multivariate regression model:

$$Disclosure_d = \alpha_0 + \beta_1 Vote_d + \gamma' X + FEs + \epsilon_d \tag{1}$$

The dependent variable is one of the aforementioned disclosure measures for the acquirer of deal d. The variable of interest is $Vote$, which is equal to 1 if the acquirer is subject to the shareholder approval requirement and 0 otherwise. We include the discussed control variables, quarter-year and industry fixed effects. The inclusion of quarter-year fixed effects controls for time-variant factors that are constant across deals, and industry fixed effects help eliminate biases from omitted industry time-invariant characteristics. For inference, we use robust standard errors clustered by industry.

Table 3 reports results of regressions using 8-K filings as the disclosure measure. The dependent variable is Ln_8k in column (1) and (2) with the latter including more control variables. The coefficient on the variable of interest, $Vote$, is positive and statistically significant at 1% level in both columns. The estimate in column (2) indicates that

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acquirers subject to shareholder approval disclose 10% more than those without the voting requirement. Results in columns (3) and (4) that use the total size of all 8-K filings during the transaction period confirm the significant association between shareholder voting and disclosure. In columns (5) and (6) that use the number of 8-K filings related to mergers, the coefficient on *Vote* is also positive and statistically significant at 1% and its estimates have similar magnitude to those in columns (1) and (2). Regarding control variables, there are more 8-K filings in deals that are more material to acquirers, take longer time to close, involve other forms of finance than just cash. Acquirers who are bigger, followed by more analysts, and with higher institutional ownership also disclose more during the transaction period.

Table 4 examines several specific types of disclosure, namely merger agreement, expected synergies and post-merger earnings. The dependent variable is *Agmt_filing* in columns (1) and (2), *Exp_synergies* in columns (3) and (4), and *E_forecasts* in columns (5) and (6). The coefficient on *Vote* is positive and statistically significant at 1% level in all six columns. We estimate that the probability of timely disclosure of the agreement is 15.9 percentage points higher for acquirers that are subject to shareholder voting than for those that are not. This is equivalent to an increase of 22% of the unconditional mean, which is economically significant. Regarding synergy disclosure, the difference is 14.4 percentage points (column (4)), equivalent to about one third of the unconditional mean (40.5%). For earnings forecasts, the probability is 7.9 percentage points higher, which translates into a 12% increase. Overall, results from Table 3 and Table 4 support Hypothesis 1 and suggest that the voting requirement has an economically significant impact on disclosure in M&As.

4.1.2   Cross-sectional tests

To better understand how shareholder voting affects disclosure, we conduct heterogeneity tests. The extent to which the shareholder voting requirement induces public disclosure is likely to depend on managers' incentives to use it to influence voting outcomes. When ownership is concentrated in the hands of a few shareholders, managers are more likely to seek direct support from those shareholders and less likely to use public disclosure to influence voting. For example, managers can try to reach voting agreements with some blockholders before deal announcements.[20] Malenko and Shen (2016) find that

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[20]When announcing the acquisition of Sprint Corp, T-Mobile reported that Deutsche Telekom, who was holding 63.5% of T-Mobile shares, had agreed to deliver a written consent in favor of the deal, which would essentially constitute the shareholder approval. See https://www.sec.gov/Archives/edgar/data/1283699/000110465918028086/a18-12444_18k.htm

recommendations by the proxy advisor firm SSI have a weaker effect on voting outcomes of firms with high institutional ownership concentration. Conversely, if the ownership is disperse, managers rely on votes by many small investors. This is when the role of public information is more important. Supporting the idea that disclosure discretion is used to influence voting outcomes, Lee and Souther (2020) find that managers choose to deliver a full set of proxy materials instead of just a notice to increase the turnout and supporting votes from retail investors.

The extent to which the shareholder voting requirement induces public disclosure may also depend on its effectiveness in influencing shareholders' voting decisions. Firms followed by more analysts are likely to better transmit the information to investors. First, analysts help to reduce costs of processing such a large quantity of complex information in M&As for investors (Blankespoor et al., 2020).[21] Second, analysts can ex post check and verify information disclosed by firms, hence managers ex ante have incentives to disclose more credible information (Healy and Palepu, 2001). When information is more credible and less costly to process, it is more likely to be incorporated into investors' decisions.

Table 5 reports results of heterogeneity tests. In panel A, we interact *Vote* with *Instown_hhi*, a measure of institutional ownership concentration. The coefficient on the interaction term between is negative and significant in most specifications. The results indicate that the positive association between the voting requirement and disclosure becomes attenuated when the institutional ownership concentration is higher, suggesting that public disclosure is more heavily deployed to influence voting outcomes when there are many small investors than when there are a few blockholders. Panel B reports results of regressions in which we interact *Vote* with *Low_AF*, a binary variable equal to 1 if the number of analysts following the acquirer is below median. The coefficient on the interaction term is negative and significant in most specifications. The results suggest that managers use relatively less public disclosure to influence voting outcomes when there are fewer information intermediaries between firms and shareholders.

4.1.3 Consequences of disclosure

We have documented a strong positive association between acquirer shareholder voting on M&As and disclosure, but it is not obvious whether the disclosure by acquirers subject

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[21]Livnat and Zhang (2012) find evidence suggesting that investors value more highly analysts' ability to interpret public disclosures (than their ability for information discovery), especially when processing costs of complex disclosure are high (Lehavy et al., 2011; Huang et al., 2018).

to shareholder voting is more informative or just a form of cheap talk. In this section, we look at this issue and test Hypothesis 2. We do so by examining the relationship between various financial market outcomes and the interaction of *Vote* and *Disclosure.*

$$Outcome_d = \alpha_0 + \beta_1 Vote_d + \beta_2 Disclosure_d + \beta_3 Vote_d \times Disclosure_d + \gamma'X + FEs + \epsilon_d \quad (2)$$

According to two mechanisms discussed in Section 2 Hypothesis Development, informative disclosure affects voting results by affecting information asymmetry and the shareholder base. Therefore, in the first set of tests, the financial market outcome we examine is bid-ask spread that proxies for information asymmetry. If disclosure by acquirers subject to shareholder voting is more informative, we expect the coefficient β_3 to be negative in bid-ask spread regressions. We further examine whether the reduced information asymmetry translates into changes in firm value. When the news is disclosed, market reaction reflects both a change in expectations about the firm's future performance as well as a reduction in information asymmetry, and the direction of the former depends on nature of the news (i.e. information content of the disclosure) while that of the latter is positive (Leuz and Verrecchia, 2000). Hence, positive and significant estimates of β_3 in market reaction regressions would lend further support to the "information asymmetry" effect.

Table 6 reports results for these tests. In column (1), the dependent variable is the logarithm of 1 plus the average bid-ask spread during the transaction period. As expected, the estimate of the coefficient on the interaction term between *Vote* and *Ln_8k* is negative and statistically significant at 1% level, indicating that the association between 8-K disclosure and bid-ask spread is more negative for acquirers subject to shareholder voting. This result supports that disclosure by acquirers subject to shareholder voting is more informative. In column (2), the dependent variable is buy-and-hold abnormal return from 1 day before to 30 days after the announcement. The estimate on the interaction term is positive and statistically significant at 1% level, which is consistent with the reduced "information asymmetry" effect. In columns (3) and (4), we look at buy-and-hold abnormal returns till 60 and 90 days after the announcement. The estimates of interest are positive but less statistically significant. This makes sense because most relevant disclosure seems concentrated in the early days after the announcement and returns of longer horizons are likely to capture other events. In columns (5)-(8), we interact *Vote* and *Size_8k* (instead of *Ln_8k*) and obtain similar results.

In the second set of tests, we examine the differential informativeness of disclosure via trading behavior. Specifically, we expect that the association between disclosure by ac-

quirers subject to shareholder voting and sales (purchases) from unsupportive shareholders is more positive (negative). Retail investors are typically more management-friendly and hence likely to support managers' M&A proposals while institutional investors are less management-friendly and more likely to take opposing actions (Malenko and Shen, 2016; Lee and Souther, 2020; Brav et al., 2021). Therefore, in our tests, we examine changes in institutional holdings and expect to find evidence particularly for transient institutional investors whose trading is sensitive to news.

Table 7 reports regression results for institutional trading. In Panel A, we examine changes in holdings by transient institutional investors from the previous quarter to the announcement quarter, scaled by the number of shares outstanding. Column (1) uses the positive change (*Purchase*), column (2) the absolute value of the negative change (*Sale*), and column (3) the net change (*Purchase - Sale*). Overall, we find that the association between 8-K disclosure by acquirers subject to voting and sales (purchases) from transient institutional investors is more positive (negative). Panels B and C show results for quasi-indexer and dedicated institutional investors. As investment strategies of these investors are not sensitive to news, we expect and find no similar effect to what is observed in the case of transient institutional investors.

4.1.4 Deal outcomes

In developing our hypotheses, we argue that disclosure can improve voting outcomes through reducing information asymmetry and triggering sales from unsupportive to supportive shareholders. In this part, we test if information asymmetry and shareholder trading are indeed related to voting outcomes.

Table 9 reports regression results. The dependent variable in column (1) and (3) is *Votes_for*, defined as the percentage of votes in favor of the M&A deal over total votes cast. We find that *Spread*, the proxy for information asymmetry, is negatively associated with *Votes_for*, though it is not statistically significant. The association between *(Transient) Sale*, sales from transient institutional investors, and *Votes_for* is positive and significant at 5% level. The estimate suggests that an increase of 4 percentage points (one standard deviation) in transient institutional sales is related to an increase of 0.4 percentage points in votes in favor.

In addition to voting support, we also look at whether a deal is completed or not. In columns (2) and (4), we find that *Spread* is negatively associated with the probability of deal completion and *(Transient) Sale* is positively associated with the probability of

deal completion. The estimates are significant at 10% and 5%, respectively.[22] Overall, these results suggest that reduced information asymmetry and sales from unsupportive shareholders help to increase the voting support and the probability of deal completion.

4.1.5 Post-merger performance

4.2 Endogeneity

4.2.1 Entropy balancing

One concern is that acquirers with and without shareholder voting are different in some unobservable characteristics which are associated with both the voting requirement and disclosure. To mitigate this concern, we use the entropy balancing method (Hainmueller, 2012) that reweighs acquirers without shareholder voting in order to form a control group that is more comparable to the treatment one. As Hainmueller (2012) points out, entropy balancing has several advantages over matching methods. The former keeps valuable information by allowing for more flexible weighing and offers superior covariate balance. Meanwhile, the use of matching methods in our setting could result in a small sample without ensuring the achievement of covariate balance. Table A6 shows that characteristics (control variables) of the two groups have more similar distributions (in terms of mean, variance, skewness) after entropy balancing. From results of regressions using weights obtained from entropy balancing, we can see that estimates on *Vote* are positive, statistically significant and of similar magnitude to the ones in baseline results.

4.2.2 Falsification and robustness tests

To further address the endogeneity due to omitted variables, we conduct falsification and robustness tests by incorporating target firms into the analysis. Specifically, we use the combined sample of targets and acquirers in the following regression model:

$$Disclosure_{i,d} = \alpha_0 + \beta_1 Vote_d + \beta_2 Vote_d \times Acquirer_{i,d} + \beta_3 Acquirer_{i,d} + \gamma' X + FEs + \epsilon_{i,d}$$

(3)

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[22]When we split the sample into deals with and without the voting requirement, we find that these associations are driven by deals subject to shareholder voting. This further confirms that information asymmetry and transient institutional trading affect the probability of deal completion through affecting voting outcomes.

The dependent variable is one of the firm-deal-level disclosure measures, namely 8-K and merger agreement filings, for firm i in deal d. The variable *Vote* is equal to 1 for deals in which acquirers are subject to the shareholder approval requirement and 0 otherwise. The variable *Acquirer* is equal to 1 if a firm is the acquirer and 0 the target. The coefficient β_1 captures the difference in disclosure between targets of the deals with and without the acquirers' shareholder voting. As all targets are subject to shareholder approval, we do not expect significant differences in their disclosure and the coefficient β_1 to be insignificant. The coefficient β_2 of the interaction term compares (i) the difference in disclosure between acquirers in deals with and without acquirers' shareholder voting and (ii) the difference in disclosure between targets. Since we expect the former difference to be positive and the latter to be insignificant, the coefficient β_2 should be positive.

Table 10 reports results of these tests. In columns (1)-(4), the dependent variables are *Agmt_filing*, *Ln_8k*, *Size_8k* and *Ln_8k_rlt*, respectively. As we expect, three estimates of β_1 are insignificant and only the estimate in column (3) is marginally significant. Meanwhile, all four estimates of β_2 are positive and significant at 1% level.

We also conduct another falsification test in which the dependent variable is 8-K filings in the same period one year before the M&As, *Ln_8k_ybf*. As we expect, column (4) shows that none of the estimates of interest is significant.

4.2.3 Exogenous variation

While entropy balancing and falsification tests mitigate the concern about endogeneity due to omitted variables, another concern is the selection effect. It could be that shareholder voting *ex ante* perfectly deters value-destroying deals from being announced, hence the observed sample of deals subject to voting contains only value-adding deals (Becht et al., 2016). In this case, we would observe more disclosure among acquirers with voting than among those without merely due to the selection effect rather than the causal effect.[23] Following Li et al. (2018), we exploit a plausibly exogenous source of variation in the distance to the 20% threshold in all-stock deals to provide evidence on the causal effect of shareholder voting on disclosure. Figure 4 shows that there is a discontinuity in the probability of shareholder voting around 20% threshold. There is about a 50-percentage-point increase in the probability of a shareholder vote for firms just above the cutoff relative to firms just below the cutoff. We exploit this jump in a fuzzy RDD.

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[23]Figure A1 Panel C illustrates this point.

The central assumption of a valid RDD is that whether a firm is just above or just below the cutoff is random. In other words, firms cannot *precisely* manipulate the running variable, e.g. the percentage of shares to be issued in our setting. In all-stock deals, it is difficult for the acquirer management to have absolute control over the percentage of shares to be issued because it also depends on (i) the negotiation with other parties and (ii) the estimate of the target's number of shares to be converted (Li et al., 2018). We conduct two tests to validate this assumption. First, we test for a discontinuity in the density of the running variable using McCrary (2008) procedure. If acquirers attempt to plan their shares issuance of just below 20% to avoid voting, the distribution is unsmooth at the threshold due to an abnormally high (low) number of firms to the left (right) of the threshold. Figure A2 shows the distribution is smooth. The absolute value of the McCrary test statistic is 0.72, which is not statistically significant at any conventional level. Both visual inspection and statistical test thus suggest the density of the running variable is smooth around the cutoff. Second, we examine if other firm and deal characteristics are balanced around the threshold. Table A7 shows that none of control variables exhibits any discontinuity at the threshold.

Figure 5 plots distribution of various disclosure variables around the threshold. We can see increases in 8-K disclosure, timely filing of merger agreement, and provision of earnings forecasts for firms just above the threshold relative to firms just below the threshold. The pattern seems noisier in disclosure of synergy information and we do not observe a clear discontinuity in this disclosure measure. To formally present the causal effect of shareholder voting on disclosure, we conduct the two-stage least-squares (2SLS) procedure by estimating the following equations:

$$Vote_d = \alpha_0 + \beta_1 Above_d + \beta_2 Shares\_tbissued_d + \beta_3 Above_d \times Shares\_tbissued_d + \gamma'X + \epsilon_d \tag{4}$$

$$Disclosure_d = \alpha_0 + \beta_1 \widehat{Vote}_d + \beta_2 Shares\_tbissued_d + \beta_3 Above_d \times Shares\_tbissued_d + \gamma'X + \epsilon_d \tag{5}$$

In equations 4 and 5, the variable *Shares_tbissued* is the percentage of shares to be issued centered at 20%, and *Above* is an indicator equal to 1 if the percentage of shares to be issued is above 20% and 0 otherwise. In equation 5, $\widehat{Vote}$ is the fitted value of *Vote* from the first-stage regression. We estimate local linear regressions using small bandwidths around the threshold.

Panel A of Table 11 reports results of the first-stage regressions. Column (1) uses a fixed bandwidth of 10%. The estimate indicates that the probability of a shareholder vote for firms just above the threshold is 60 percentage points higher than for firms just below

the threshold. The estimate is also highly statistically significant with a F-statistic of 55.794. In columns (2)-(5), we use Calonico et al. (2014) procedure to calculate optimal data-driven bandwidths whose values depend also on disclosure variables in the second stage. Data-driven bandwidths range from 4.2%-7.3%. The trade-off in choosing the bandwidth is that a larger bandwidth increases precision by including more observations, but introduces an additional bias. In the second stage, we use bias-corrected robust standard errors for inference proposed by Calonico et al. (2014).

Panel B reports RD estimates using both a fixed bandwidth of 10% and data-driven bandwidths. Results confirm patterns observed in Figure 5. The RD estimates are statistically significant for *Size_8k*, *Agmt_filing* and *E_forecasts*, but not for *Exp_synergies*. The RD estimates are about double the OLS estimates for the full sample, suggesting a significant local average treatment effect of shareholder voting on disclosure around the 20% threshold.

5   Conclusion

Regulators have initiated several reforms that empower shareholders through voting. While there are certain benefits from strong shareholder voting rights, one major concern remains. Shareholders often lack specific information about the firm and their voting decisions may lead to inferior outcomes that could have been avoided had the managers with better information been left to their own devices. We address this concern and examine whether the shareholder voting requirement in M&As itself can induce managers to disclose information that is useful to shareholders-voters.

We find that acquirers subject to shareholder voting provide more 8-K disclosure during the transaction period and are more likely to provide timely disclosure of the merger agreement, expected synergy information, and post-merger earnings forecasts. These associations are stronger for acquirers with more disperse institutional ownership and higher analyst coverage. This suggests that managers are more likely to use disclosure when it is more necessary or effective to use public communication to increase the shareholder turnout and voting support. We also find that the association between disclosure and bid-ask spread (transient institutional sales) is more negative (positive) for acquirers subject to shareholder voting. Lower bid-ask spread and higher transient institutional sales are associated with higher voting support and likelihood of deal completion. These results suggest that the induced disclosure is informative and it can affect voting outcomes through changing the deal valuation and the shareholder base.

Evidence from falsification tests and a RDD provide confirmatory evidence of a positive and economically significant effect of shareholder voting on disclosure.

Future studies can exploit other settings such as the U.K. one in which shareholder approval is imposed exogenously via a threshold test to study further implications of shareholder voting on M&As for disclosure and other policies. We also leave to future research the exercise of exploring how disclosure in M&As change retail shareholder ownership and resulting voting outcomes.

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Figure 1: M&A timeline
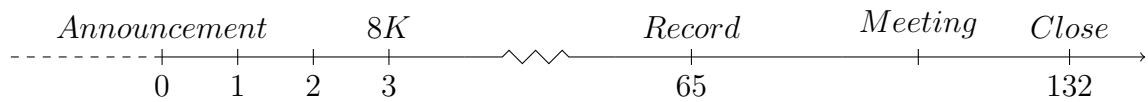
This figure plots the timeline of an typical deal. Important dates during the transaction period include the public announcement date, record and meeting dates if voting is required, and closing date (completion or withdrawal). The median duration of the transaction period is 132 calendar days. There are 2,412 (out of 3,278) acquirers that file the 8-K filing of the merger agreement, and the median lag is 3 days after the announcement. Record dates are available for only 650 (out of 3,278) deals, and the median gap from the announcement is 65 calendar days.

Figure 2: Distribution of 8-K filings in the transaction year and previous year
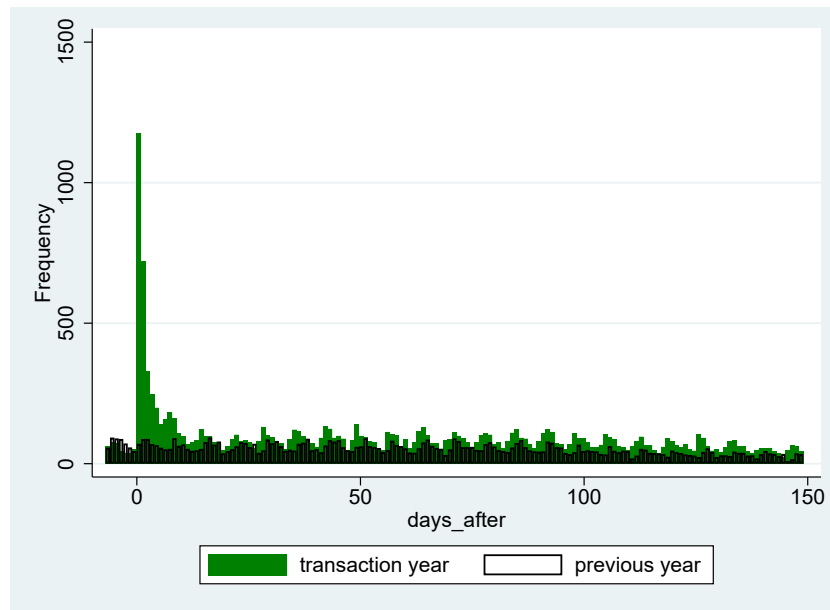
This figure plots the distribution of 8-K filings by acquirers of 3,278 deals from 7 days before to 150 days after the announcement. Green bars denote filings in the transaction year; the white bars with the black outline denote filings in the previous year.

Figure 3: Distribution of average 8-K filings per firm around the announcement
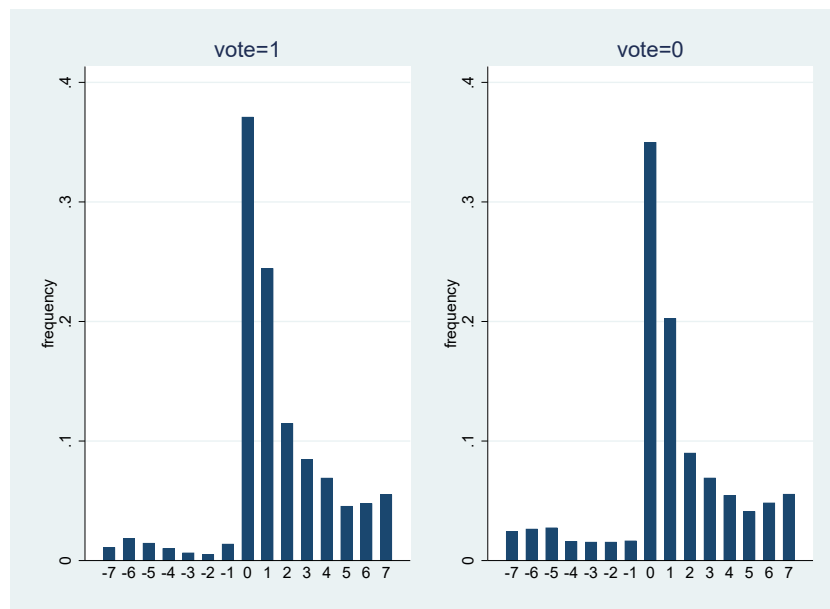
This figure plots the distribution of average 8-K filings per firm by acquirers of 3,278 deals from 7 days before to 7 days after the announcement. On the left (right) is the distribution for acquirers (not) subject to shareholder voting.

Figure 4: Probability of a shareholder vote around the 20% threshold
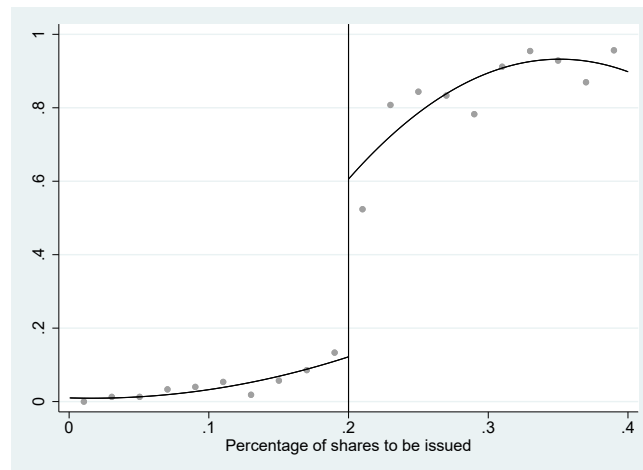
This figure plots the distribution of shareholder votes around the 20% threshold. The x-axis presents the forcing variable - the number of shares to be issued over the number shares outstanding. The y-axis corresponds to the probability of a shareholder vote. Each dot represents the average probability of a shareholder vote in bins of 2%. The solid lines represent the fitted values from a second-degree polynomial of the percentage of shares to be issued. The sample consists of 822 all-stock deals with the percentage of shares to be issued between 0-40%.

Figure 5: Disclosure around the 20% threshold
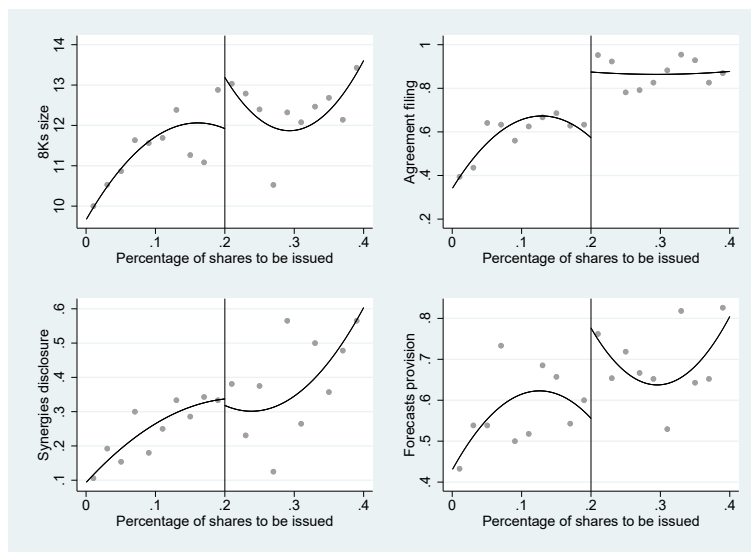
This figure plots the distribution of disclosure around the 20% threshold. The x-axis presents the forcing variable- the number of shares to be issued over the number shares outstanding. The y-axis corresponds to one of the four disclosure variables. Each dot represents the average value of the disclosure variable in bins of 2%. The solid lines represent the fitted values from a second-degree polynomial of the percentage of shares to be issued. The sample consists of 822 all-stock deals with the percentage of shares to be issued between 0-40%.

Table 1: Summary statistics

VARIABLES	(1) N	(2) mean	(3) sd	(4) p5	(5) p25	(6) p50	(7) p75	(8) p95
N_8k	3,216	5.988	7.012	0	2	4	8	18
Size_8k	3,216	12.373	4.199	0	12.007	13.093	14.804	16.855
Agmt_filing	3,216	0.734	0.442	0	0	1	1	1
Exp_synergies	3,216	0.405	0.491	0	0	0	1	1
E_forecasts	3,216	0.656	0.475	0	0	1	1	1
Vote	3,216	0.413	0.492	0	0	0	1	1
Relative_value	3,216	0.488	0.684	0.010	0.077	0.257	0.645	1.623
Cash_payment	3,216	0.191	0.393	0	0	0	0	1
Horizontal	3,216	0.390	0.488	0	0	0	1	1
N_days	3,216	151.835	87.960	60	93	133	182	318
Size	3,216	7.528	2.045	4.247	6.087	7.481	8.920	11.190
Instown	3,216	0.535	0.276	0.054	0.321	0.557	0.755	0.947
N_analysts	3,216	10.092	8.530	0	3	8	15	27
Return	3,216	0.037	0.233	-0.343	-0.075	0.026	0.140	0.425
Volatility	3,216	0.026	0.017	0.010	0.015	0.021	0.032	0.062
MTB	2,862	2.022	1.741	0.964	1.075	1.355	2.221	5.499
ROA	2,862	0.004	0.040	-0.053	0.002	0.006	0.019	0.043
Loss	2,862	0.150	0.357	0	0	0	0	1
Leverage	2,862	0.210	0.175	0	0.065	0.184	0.307	0.547

This table presents summary statistics of main variables. The variable *N_8k* is the number of 8-K filings during the transaction period, *Size_8k* is logarithm of 1 plus the total size of all 8-K filings during the transaction period, *Agmt_filing* is an indicator equal to 1 for timely filing of the merger agreement within 15 days since the entry into the agreement, *Exp_synergies* is an indicator equal to 1 if the announcement press release includes synergy-related words, *E_forecasts* is an indicator equal to 1 if the announcement press release includes word combinations conveying earnings forecasts, *Vote* is an indicator equal to 1 if the acquirer is subject to shareholder approval, *Relative_value* is transaction value divided by market capitalization, *N_days* is the number of days in the transaction period, *Cash_payment* is an indicator equal to 1 if the deal is financed by cash only, *Horizontal* is an indicator equal to 1 if the deal is between firms of the same industry, *Size* is logarithm of market capitalization, *Instown* is percentage of institutional ownership, *N_analysts* is the number of analysts following, *Return* is buy-and-hold stock return, *Volatility* standard deviation of daily stock return, *MTB* is market capitalization divided by total assets, *ROA* is income before extraordinary items divided by total assets, *Loss* is an indicator equal to 1 if net income is negative, and *Leverage* is total long-term debt divided by total assets.

Table 2: Univariate analysis

	Vote=0	Vote=1	difference
N_8k	5.622	6.509	-0.887***
Size_8k	12.037	12.852	-0.815***
Agmt_filing	0.638	0.870	-0.231***
Exp_synergies	0.340	0.498	-0.158***
E_forecasts	0.623	0.705	-0.082***
Relative_value	0.224	0.864	-0.640***
Cash_payment	0.311	0.019	0.292***
Horizontal	0.355	0.440	-0.085***
N_days	141.332	166.787	-25.455***
Size	8.101	6.711	1.390***
Instown	0.571	0.483	0.088***
N_analysts	11.793	7.671	4.122***
Return	0.035	0.041	-0.006
Volatility	0.024	0.030	-0.006***
MTB	2.086	1.927	0.160**
ROA	0.009	-0.002	0.010***
Loss	0.111	0.207	-0.095***
Leverage	0.208	0.213	-0.005

This table compares the characteristics of two acquirer samples with and without shareholder voting. Column (1) reports the mean of variables in the sample with shareholder voting and column (2) without shareholder voting. Column (3) report the difference in mean between the two samples. ***, **, and * denote statistical significance of the T-test at 1%, 5% and 10% level, respectively.

Table 3: Shareholder voting and 8K disclosure

VARIABLES	(1) Ln_8k	(2) Ln_8k	(3) Size_8k	(4) Size_8k	(5) Ln_8k_rlt	(6) Ln_8k_rlt
Vote	0.091***	0.106***	0.842***	0.846***	0.124***	0.125***
	(0.021)	(0.020)	(0.107)	(0.110)	(0.034)	(0.034)
Relative_value	0.095***	0.088***	0.356***	0.355**	0.125***	0.123***
	(0.022)	(0.025)	(0.104)	(0.137)	(0.029)	(0.038)
Ln_days	0.626***	0.608***	1.277***	1.232***	0.217***	0.211***
	(0.025)	(0.030)	(0.210)	(0.229)	(0.033)	(0.034)
Cash_payment	-0.159***	-0.147***	-0.552**	-0.424**	-0.147***	-0.140***
	(0.027)	(0.023)	(0.221)	(0.185)	(0.033)	(0.033)
Horizontal	0.042**	0.049***	0.160	0.219*	0.047	0.049
	(0.017)	(0.018)	(0.103)	(0.114)	(0.033)	(0.033)
Size	0.048***	0.053***	0.051	0.117**	0.016	0.015
	(0.012)	(0.011)	(0.049)	(0.048)	(0.009)	(0.011)
Return	0.014	0.024	0.425	0.623*	0.068	0.058
	(0.050)	(0.056)	(0.316)	(0.339)	(0.069)	(0.070)
Volatility	2.332***	2.208**	11.338	7.325	0.685	1.140
	(0.805)	(0.933)	(8.125)	(8.129)	(0.764)	(1.372)
Instown	0.141***	0.157***	0.913***	0.987***	0.116	0.102
	(0.043)	(0.040)	(0.317)	(0.305)	(0.075)	(0.083)
Ln_analysts	0.064**	0.058**	0.308**	0.229**	0.018	0.030
	(0.028)	(0.026)	(0.119)	(0.099)	(0.024)	(0.027)
MTB		-0.003		-0.038		0.006
		(0.005)		(0.067)		(0.008)
ROA		-0.233		-4.514		0.174
		(0.317)		(3.108)		(0.431)
Loss		0.061*		0.339		0.002
		(0.032)		(0.305)		(0.040)
Leverage		0.122		0.361		0.132
		(0.084)		(0.461)		(0.092)
Observations	3,216	2,862	3,216	2,862	3,216	2,862
Adjusted R-squared	0.620	0.624	0.389	0.396	0.249	0.255
Quarter-Year FE	yes	yes	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes	yes	yes

This table presents regression results for the models examining the relationship between shareholder voting and 8-K disclosure. The dependent variable in columns (1) and (2) is *Ln_8k*, logarithm of 1 plus the number of 8-K filings during the transaction period, in columns (3) and (4) *Size_8k*, logarithm of 1 plus the total size of all 8-K filings during the transaction period, and in columns (5) and (6) *Ln_8k_rlt*, logarithm of 1 plus the number of 8-K filings mentioning the name of the other party during the transaction period. Robust standard errors clustered by industry are in parentheses. ***, **, and * denote statistical significance at 1%, 5% and 10% level, respectively.

Table 4: Shareholder voting and specific disclosure

VARIABLES	(1) Agmt_filing	(2) Agmt_filing	(3) Exp_synergies	(4) Exp_synergies	(5) E_forecasts	(6) E_forecasts
Vote	0.164***	0.159***	0.155***	0.144***	0.088***	0.079***
	(0.016)	(0.017)	(0.024)	(0.024)	(0.015)	(0.016)
Relative_value	0.048***	0.060***	0.054***	0.065***	0.033**	0.040**
	(0.013)	(0.015)	(0.016)	(0.015)	(0.015)	(0.017)
Ln_days	0.021	0.021	0.018	0.012	0.071***	0.071***
	(0.021)	(0.022)	(0.017)	(0.018)	(0.016)	(0.019)
Cash_payment	-0.109***	-0.097***	-0.086***	-0.089***	-0.037	-0.037
	(0.032)	(0.030)	(0.024)	(0.027)	(0.026)	(0.025)
Horizontal	0.031*	0.036*	0.031**	0.034**	-0.007	-0.004
	(0.017)	(0.020)	(0.015)	(0.015)	(0.019)	(0.018)
Size	-0.019***	-0.023***	-0.003	0.006	-0.018*	-0.018**
	(0.005)	(0.005)	(0.008)	(0.009)	(0.009)	(0.008)
Return	0.075***	0.077***	0.021	0.044	0.097**	0.092**
	(0.021)	(0.024)	(0.037)	(0.043)	(0.037)	(0.035)
Volatility	1.173	1.404*	-1.130**	-0.558	-3.475***	-1.676*
	(0.706)	(0.703)	(0.496)	(0.663)	(1.028)	(0.984)
Instown	0.132***	0.117**	0.014	0.023	0.164**	0.114
	(0.038)	(0.050)	(0.044)	(0.040)	(0.066)	(0.068)
Ln_analysts	-0.008	-0.007	0.050***	0.045**	0.051**	0.050**
	(0.017)	(0.020)	(0.015)	(0.018)	(0.019)	(0.019)
MTB		0.005		-0.028***		-0.005
		(0.005)		(0.005)		(0.009)
ROA		0.279		0.275		0.333*
		(0.277)		(0.236)		(0.180)
Loss		-0.017		0.060*		-0.082**
		(0.030)		(0.031)		(0.031)
Leverage		-0.063		-0.018		0.034
		(0.057)		(0.058)		(0.072)
Observations	3,216	2,862	3,216	2,862	3,216	2,862
Adj. R-squared	0.158	0.160	0.231	0.236	0.095	0.088
Quarter-Year FE	yes	yes	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes	yes	yes

This table presents regression results for the models examining the relationship between shareholder voting and specific disclosure. The dependent variable in columns (1) and (2) is *Agmt_filing*, an indicator equal to 1 for timely filing of the merger agreement within 15 days since the entry into the agreement, in columns (3) and (4) *Exp_synergies*, an indicator equal to 1 if the announcement press release includes synergy-related words, in columns (5) and (6) *E_forecasts*, an indicator equal to 1 if the announcement press release includes word combinations conveying earnings forecasts. Robust standard errors clustered by industry are in parentheses. ***, **, and * denote statistical significance at 1%, 5% and 10% level, respectively.

Table 5: Heterogeneous effect of shareholder voting on disclosure

Panel A. Ownership concentration

VARIABLES	(1) Ln_8k	(2) Size_8k	(3) Ln_8k_rlt	(4) Agmt_filing	(5) Exp_synergies	(6) E_forecasts
Vote	0.122***	0.848***	0.162***	0.187***	0.190***	0.115***
	(0.024)	(0.146)	(0.042)	(0.017)	(0.020)	(0.020)
Vote × Instown_hhi	-0.164	0.056	-0.397*	-0.286***	-0.483***	-0.371**
	(0.238)	(0.978)	(0.228)	(0.095)	(0.102)	(0.164)
Observations	2,862	2,862	2,862	2,862	2,862	2,862
Adjusted R-squared	0.624	0.397	0.255	0.162	0.239	0.091
Controls	yes	yes	yes	yes	yes	yes
Quarter-Year FE	yes	yes	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes	yes	yes

Panel B. Analyst following

VARIABLES	(1) Ln_8k	(2) Size_8k	(3) Ln_8k_rlt	(4) Agmt_filing	(5) Exp_synergies	(6) E_forecasts
Vote	0.153***	0.937***	0.225***	0.243***	0.205***	0.147***
	(0.032)	(0.132)	(0.052)	(0.029)	(0.028)	(0.033)
Vote × Low_AF	-0.083	-0.162	-0.173**	-0.146***	-0.108**	-0.118***
	(0.053)	(0.198)	(0.066)	(0.032)	(0.052)	(0.037)
Observations	2,862	2,862	2,862	2,862	2,862	2,862
Adjusted R-squared	0.624	0.396	0.257	0.165	0.239	0.091
Controls	yes	yes	yes	yes	yes	yes
Quarter-Year FE	yes	yes	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes	yes	yes

This table presents regression results for the models examining the heterogeneous effect of shareholder voting on disclosure. In panel A, *Instown_hhi* is a measure of institutional ownership concentration. In panel B, *Low_AF* is an indicator equal to 1 if the number of analysts following a firm is below median. Robust standard errors clustered by industry are in parentheses. ***, **, and * denote statistical significance at 1%, 5% and 10% level, respectively.

Table 6: Shareholder voting, disclosure and information asymmetry

VARIABLES	(1) Spread	(2) Volume	(3) BHAR30	(4) BHAR60	(5) BHAR90	(6) Spread	(7) Volume	(8) BHAR30	(9) BHAR60	(10) BHAR90
Vote	0.070***	-0.045	-0.087***	-0.091***	-0.085***	0.160***	-0.106	-0.128***	-0.137***	-0.129**
	(0.025)	(0.081)	(0.021)	(0.025)	(0.030)	(0.041)	(0.107)	(0.033)	(0.047)	(0.054)
Ln_8k	-0.005	0.010	-0.013	-0.014	-0.015					
	(0.007)	(0.020)	(0.008)	(0.011)	(0.012)					
Vote × Ln_8k	-0.036***	0.128**	0.026***	0.021*	0.019					
	(0.012)	(0.049)	(0.009)	(0.011)	(0.014)					
Size_8k						-0.000	-0.008	-0.001	-0.001	-0.000
						(0.001)	(0.005)	(0.001)	(0.002)	(0.002)
Vote × Size_8k						-0.012***	0.022**	0.006***	0.006*	0.006
						(0.003)	(0.009)	(0.002)	(0.003)	(0.004)
Observations	2,856	2,862	2,818	2,818	2,818	2,856	2,862	2,818	2,818	2,818
Adjusted R-squared	0.683	0.499	0.070	0.051	0.028	0.684	0.497	0.072	0.052	0.028
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Quarter-Year FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

This table presents regression results of models examining the relationship between shareholder voting, disclosure and information asymmetry. The dependent variable *Spread* is logarithm of 1 plus average relative bid-ask spread during the transaction period. Variables *BHAR30*, *BHAR60*, and *BHAR90* are buy-and-hold abnormal return for trading periods (-1,30), (-1,60), and (-1,90) around announcement dates, respectively. Robust standard errors clustered by industry are in parentheses. ***, **, and * denote statistical significance at 1%, 5% and 10% level, respectively.

Table 7: Shareholder voting, disclosure and institutional trading

Panel A. Transient institutional investors

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Purchase	Sale	Net	Purchase	Sale	Net
Vote	0.620	-0.272	0.893*	1.026	-0.537**	1.563**
	(0.467)	(0.219)	(0.482)	(0.715)	(0.241)	(0.703)
Ln_8k	0.330**	0.008	0.322*			
	(0.148)	(0.111)	(0.183)			
Vote × Ln_8k	-0.337*	0.265**	-0.602***			
	(0.195)	(0.120)	(0.214)			
Size_8k				0.034	-0.005	0.040*
				(0.021)	(0.017)	(0.021)
Vote × Size_8k				-0.075	0.055**	-0.130***
				(0.047)	(0.023)	(0.048)

Panel B. Quasi-indexer institutional investors

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Purchase	Sale	Net	Purchase	Sale	Net
Vote	0.167	0.849**	-0.683**	0.045	0.896**	-0.852*
	(0.352)	(0.391)	(0.328)	(0.415)	(0.391)	(0.463)
Ln_8k	0.019	0.229	-0.211			
	(0.168)	(0.300)	(0.253)			
Vote × Ln_8k	-0.172	-0.383	0.211			
	(0.151)	(0.305)	(0.285)			
Size_8k				0.016	0.006	0.010
				(0.024)	(0.021)	(0.025)
Vote × Size_8k				-0.014	-0.052	0.038
				(0.033)	(0.040)	(0.050)

Panel C. Dedicated institutional investors

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Purchase	Sale	Net	Purchase	Sale	Net
Vote	-0.299	0.034	-0.333	-0.340	-0.027	-0.313
	(0.299)	(0.054)	(0.316)	(0.312)	(0.091)	(0.348)
Ln_8k	0.130	0.012	0.119			
	(0.081)	(0.032)	(0.083)			
Vote × Ln_8k	-0.007	-0.057*	0.051			
	(0.057)	(0.031)	(0.076)			
Size_8k				0.019**	0.000	0.019**
				(0.007)	(0.007)	(0.007)
Vote × Size_8k				0.002	-0.003	0.005
				(0.008)	(0.007)	(0.012)

This table presents regression results for the models examining the relationship between shareholder voting, disclosure and institutional trading. Institutional investor classifications are from Brian Bushee. The dependent variable *Purchase* is the total positive change in institutional holdings from the previous quarter to the announcement quarter scaled by the number of shares outstanding. The variable *Sale* is the absolute value of total negative change in institutional holdings from the previous quarter to the announcement quarter scaled by the number of shares outstanding. The variable *Net* is the difference between *Purchase* and *Sale*. All regressions include control variables, Industry and Quarter-Year fixed effects using 2,840 observations. Robust standard errors clustered by industry are in parentheses. ***, **, and * denote statistical significance at 1%, 5% and 10% level, respectively.

Table 8: Information asymmetry, institutional trading and deal outcomes

VARIABLES	(1) Votes_for	(2) Completed	(3) Votes_for	(4) Completed
Spread	-0.371	-0.029*		
	(0.770)	(0.017)		
(Transient) Sale			0.099**	0.003**
			(0.045)	(0.001)
Observations	846	2,856	837	2,840
Adjusted R-squared	0.053	0.025	0.046	0.028
Controls	yes	yes	yes	yes
Quarter-Year FE	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes

This table presents regression results for the models examining the relationship between information asymmetry (institutional trading) and deal outcomes. The dependent variable in columns (1) and (3) is *Votes_for*, the percentage of votes in favor of the deal over the total vote cast, in columns (2) and (4) *Completed*, an indicator equal to 1 if the deal is completed and 0 if withdrawn. *Spread* is logarithm of 1 plus average relative bid-ask spread during the transaction period. *(Transient) Sale* the absolute value of total negative change in transient institutional holdings from the previous quarter to the announcement quarter scaled by the number of shares outstanding. Robust standard errors clustered by industry are in parentheses. ***, **, and * denote statistical significance at 1%, 5% and 10% level, respectively.

Table 9: Shareholder voting, earnings forecasts disclosure and post-merger profitability

Panel A.

VARIABLES	(1) ROA1	(2) ROA2	(3) Margin1	(4) Margin2
E_forecasts	0.013	0.015**	0.050	0.064**
	(0.011)	(0.007)	(0.035)	(0.025)
Observations	2,450	2,264	2,447	2,263
Adjusted R-squared	0.328	0.254	0.323	0.253
Controls	yes	yes	yes	yes
Quarter-Year FE	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes

Panel B.

VARIABLES	(1) ROA1	(2) ROA2	(3) Margin1	(4) Margin2
E_forecasts	0.006	-0.000	0.030	0.022
	(0.012)	(0.006)	(0.032)	(0.020)
Vote × E_forecasts	0.021	0.048**	0.060	0.133***
	(0.028)	(0.018)	(0.059)	(0.049)
Observations	2,450	2,264	2,447	2,263
Adjusted R-squared	0.328	0.258	0.323	0.258
Controls	yes	yes	yes	yes
Quarter-Year FE	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes

This table presents regression results for the models examining the relationship between shareholder voting, earnings forecasts disclosure, and post-merger profitability. Dependent variables in columns (1) and (2) are return on asset of the first (*ROA1*) and second (*ROA2*) year after the merger, respectively. Dependent variables in columns (3) and (4) are profit margin of the first (*Margin1*) and second (*Margin2*) year after the merger, respectively. Robust standard errors clustered by industry are in parentheses. ***, **, and * denote statistical significance at 1%, 5% and 10% level, respectively.

Table 10: Shareholder voting and disclosure: Falsification and robustness

VARIABLES	(1) Agmt_filing	(2) Ln_8k	(3) Size_8k	(4) Ln_8k_rlt	(5) Ln_8k_ybf
Vote	-0.021	0.010	0.287*	0.007	-0.008
	(0.027)	(0.018)	(0.156)	(0.024)	(0.024)
Vote × Acquirer	0.237***	0.175***	0.842***	0.191***	-0.007
	(0.026)	(0.026)	(0.204)	(0.041)	(0.027)
Acquirer	-0.163***	0.024	-0.165	-0.111*	0.026
	(0.032)	(0.035)	(0.215)	(0.057)	(0.030)
Relative_value	0.024***	0.032***	0.176**	0.049***	0.003
	(0.007)	(0.008)	(0.072)	(0.015)	(0.011)
Ln_days	0.017	0.550***	0.991***	0.201***	0.638***
	(0.013)	(0.022)	(0.119)	(0.023)	(0.024)
Cash_payment	-0.042	-0.081***	-0.336***	-0.117***	-0.083***
	(0.025)	(0.015)	(0.111)	(0.028)	(0.020)
Horizontal	0.012	0.026**	0.009	-0.014	0.016
	(0.010)	(0.011)	(0.097)	(0.021)	(0.012)
Size	-0.015**	0.060***	0.175***	0.020**	0.066***
	(0.006)	(0.009)	(0.034)	(0.009)	(0.012)
Return	0.039**	-0.011	0.343**	0.070**	-0.002
	(0.019)	(0.029)	(0.148)	(0.034)	(0.035)
Volatility	0.124	0.834*	-0.668	0.475	2.761***
	(0.481)	(0.427)	(3.093)	(0.609)	(0.416)
Instown	0.155***	0.177***	1.034***	0.066	0.074
	(0.032)	(0.029)	(0.197)	(0.042)	(0.049)
Ln_analysts	0.008	0.042	0.178	0.029*	0.065**
	(0.008)	(0.026)	(0.141)	(0.017)	(0.027)
MTB	0.007*	-0.004	-0.048	0.003	-0.022***
	(0.003)	(0.005)	(0.042)	(0.007)	(0.007)
ROA	-0.044	-0.357*	-3.337***	0.166	-0.226
	(0.152)	(0.192)	(1.237)	(0.303)	(0.243)
Loss	0.011	0.024	0.195	-0.005	0.061**
	(0.015)	(0.023)	(0.159)	(0.036)	(0.024)
Leverage	-0.016	0.143***	0.752***	0.042	0.275***
	(0.032)	(0.050)	(0.252)	(0.054)	(0.051)
Observations	5,897	5,897	5,897	5,897	5,897
Adjusted R-squared	0.156	0.644	0.367	0.221	0.637
Quarter-Year FE	yes	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes	yes

This table presents regression results for falsification and robustness tests using the pooled sample of both acquirers and targets. The variable *Acquirer* is equal to 1 if a firm is the acquirer and 0 if the target. The dependent variable in columns (1) is *Agmt_filing*, an indicator equal to 1 for timely filing of the merger agreement within 15 days since the entry into the agreement, in column (2) *Ln_8k*, logarithm of 1 plus the number of 8-K filings during the transaction period, in column (3) *Size_8k*, logarithm of 1 plus the total size of all 8-K filings during the transaction period, in column (4) *Ln_8k_rlt*, logarithm of 1 plus the number of 8-K filings mentioning the name of the other party during the transaction period, in column (5) *Ln_8k_ybf*, logarithm of 1 plus the number of 8-K filings one year before the deal during the same time interval as the transaction period. Robust standard errors clustered by industry are in parentheses. ***, **, and * denote statistical significance at 1%, 5% and 10% level, respectively.

Table 11: Effect of shareholder voting on disclosure: Fuzzy RDD

Panel A. First stage

	(1)	(2)	(3)	(4)	(5)
Bandwidth	0.100	.073	.062	.060	.042
Above	0.605***	0.432***	0.418***	0.425***	0.324**
	(0.081)	(0.095)	(0.114)	(0.119)	(0.162)
Shares_tbissued	-0.290	1.038	0.560	0.530	1.619
	(0.865)	(1.391)	(2.051)	(2.212)	(4.627)
Above × Shares_tbissued	2.025	4.895**	6.189**	5.956*	9.905
	(1.346)	(2.083)	(2.911)	(3.140)	(6.190)
Observations	295	206	165	158	100
Adjusted R-squared	0.590	0.635	0.578	0.558	0.482
IV F-stat	55.794	20.813	13.526	12.723	4.003
Controls	yes	yes	yes	yes	yes

Panel B. Second stage

	(1) Size_8k	(2) Agmt_filing	(3) Exp_synergies	(4) E_forecasts
Bandwidth	0.100	0.100	0.100	0.100
Estimate	1.922***	0.511***	-0.339	0.182**
p-value	0.006	0.000	0.464	0.035
N	295	295	295	295
Bandwidth	0.073	0.062	0.060	0.042
Estimate	5.437**	0.936***	-0.492	0.573
p-value	0.021	0.003	0.237	0.454
N	206	165	158	100

This table presents results for the models examining effect of shareholder voting on disclosure using a fuzzy RDD. Panel A presents results of the first-stage regressions in which the dependent variable is *Vote*. The variable *Shares_tbissued* is the percentage of shares to be issued centered at 20%. The variable *Above* is equal to 1 if the percentage to be issued is above 20%. Panel B presents RD estimates using a fixed bandwidth of 10% or data-driven bandwidths proposed by Calonico et al. (2014). In both cases, p-values are constructed using bias-correction with robust standard errors as derived in Calonico et al. (2014). ***, **, and * denote statistical significance at 1%, 5% and 10% level, respectively.

A   Appendix

A.1   Figures and Tables

Figure A1: Illustration of relationships between shareholder voting and disclosure

A. No voting

B. Direct effect of voting

C. Selection effect of voting
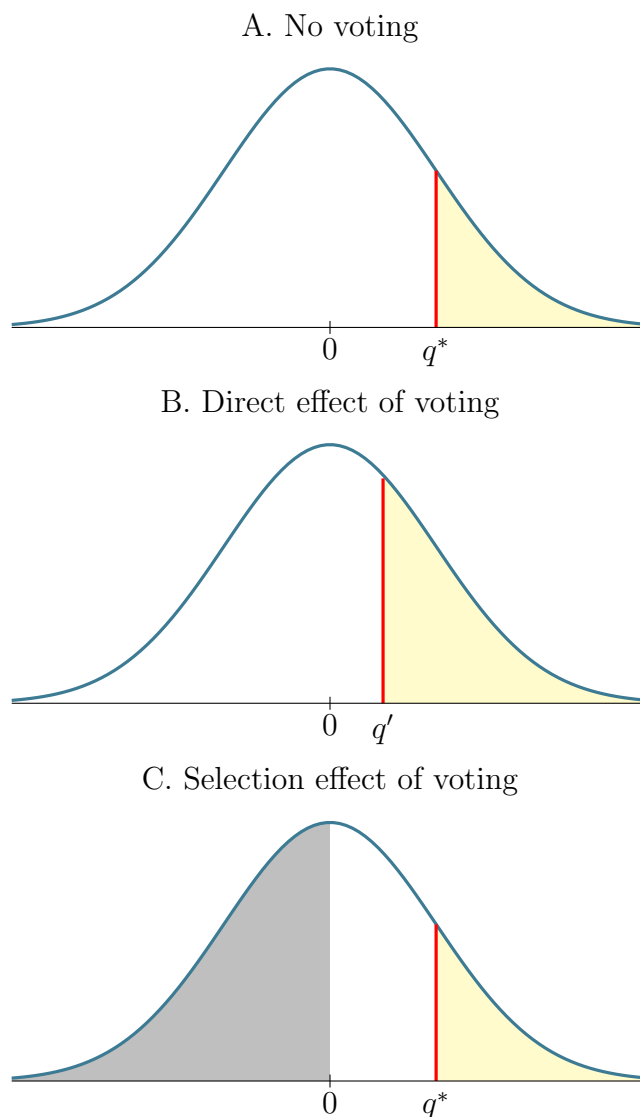
This figure illustrates relationships between shareholder voting and disclosure in M&As under different scenarios. The quality of a M&A deal $q \sim N(0, \sigma)$ where $q > 0$ means value increasing for shareholders. Without voting (A), the disclosure threshold q^* above which managers disclose private information about the deal is determined by the benefits and costs of doing so. Panel B illustrates the direct effect of voting: Subject to voting, managers are willing to lower the threshold to q' because disclosing information helps improve voting outcomes, i.e. voting *ex ante* causes more disclosure. Panel C illustrates the selection effect of voting: Subject to voting, only value-adding deals are announced (and hence approved) because voting perfectly deters managers from announcing value-destroying deals, which creates a positive association between voting and disclosure even in the absence of the former causing the latter.

Figure A2: Density function of the percentage of shares to be issued
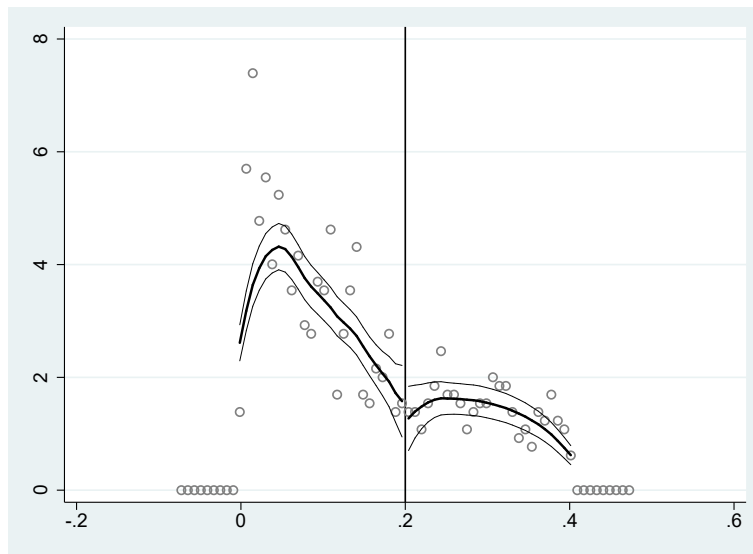
The figure shows the histogram, estimated density, and 95% confidence intervals of the percentage of shares to be issued. The sample consists of 822 all-stock deals with the percentage of shares to be issued between 0-40%. The absolute value of the McCrary (2008) test statistic is 0.72, which is not statistically significantly different from zero at any conventional level.

Table A1: Variable definitions

Name	Definition	Data Source
Ln_8k	Logarithm of 1 plus the number of 8-K filings during the transaction period (N_8k)	EDGAR, SDC
Ln_8k_rlt	Logarithm of 1 plus the number of 8-K filings mentioning the name of the other party during the transaction period (N_8k_rlt)	EDGAR, SDC
Ln_8k_ybf	Logarithm of 1 plus the number of 8-K filings one year before the deal during the same time interval as the transaction period (N_8k_ybf)	EDGAR, SDC
Size_8k	Logarithm of 1 plus the total size of all 8-K filings during the transaction period	EDGAR, SDC
Agmt_filing	An indicator equal to 1 for timely filing of the merger agreement within 15 days since the entry into the agreement, and 0 otherwise	EDGAR, SDC
Exp_synergies	An indicator equal to 1 if the announcement press release includes synergy-related words, namely *synergy, synergies, cost saving(s)*	EDGAR
E_forecasts	An indicator equal to 1 if the announcement press release includes word combinations conveying earnings forecasts proposed by Amel-Zadeh and Meeks (2019)	EDGAR
Vote	An indicator equal to 1 if the acquirer is subject to shareholder approval and 0 otherwise	EDGAR
Acquirer	An indicator equal to 1 if the firm is the acquirer, 0 if the target	SDC
Relative_value	Value of the transaction divided by market value of a firm at the end of the quarter before the deal	SDC, CRSP
Ln_days	Logarithm of 1 plus the number of days in the transaction period	SDC
Cash_payment	An indicator equal to 1 if the deal is financed by cash only	SDC
Horizontal	An indicator equal to 1 if the deal is between firms of the same industry (same 2-digit SIC code)	SDC
Size	Ln(SHROUT*PRC)	CRSP
Return	Buy-and-hold stock return in the quarter before the deal	CRSP
Volatility	Standard deviation of daily stock return in the quarter before the deal	CRSP
Instown	Percentage of institutional ownership	Thomson Reuters
Instown_hhi	Institutional ownership concentration	Thomson Reuters
Ln_analysts	Logarithm of 1 plus the number of analysts provide earnings forecasts for a firm (N_analysts)	IBES
Low_AF	An indicator equal to 1 if the number of analysts following a firm is below median	IBES
MTB	SHROUT*PRC/ATQ	CRSP, Compustat
ROA	NIQ/ATQ	Compustat
Leverage	(DLCQ + DLTTQ)/ATQ	Compustat
Loss	An indicator equal to 1 if NIQ is negative and 0 otherwise	Compustat
ROA1(2)	ROA of the first (second) year after the merger	Compustat
Margin1(2)	NI/SALE, profit margin of the first (second) year after the merger	Compustat
Spread	Logarithm of 1 plus average relative bid-ask spread during the transaction period	CRSP
Volume	Total trading volume during the transaction period divided by the number of share outstanding	CRSP
BHAR30/60/90	Buy-and-hold abnormal return from one day before to 30/60/90 days after the announcement date calculated using the market-adjusted model	SDC, CRSP
Purchase	The total positive change in institutional holdings from the previous quarter to the announcement quarter scaled by the number of shares outstanding	Thomson Reuters
Sale	Absolute value of the total negative change in institutional holdings from the previous quarter to the announcement quarter scaled by the number of shares outstanding	Thomson Reuters
Net	The difference between *Purchase* and *Sale*	Thomson Reuters
Votes_for	The number of votes in favor of the deal divided by total votes cast	EDGAR
Completed	An indicator equal to 1 if the deal is completed and 0 if withdrawn	SDC
Shares_tbissued	The number of shares to be issued divided by the number of shares outstanding centered at 20%	SDC, EDGAR
Above	An indicator equal to 1 if the percentage of shares to be issued is above 20%	SDC, EDGAR

Table A2: Sample construction

Requirement	N	
Announcement date between 01/01/1995-31/12/2019		
US target	283,221	deals
Public target	43,742	deals
US acquirer	39,692	deals
Public acquirer	30,060	deals
Known deal status	29,815	deals
Deal type: NOT undisclosed value, tender offers, spinoffs, recapitalizations, self-tenders, exchange offers, repurchases, acquisitions of minority or remaining interest, and privatizations	5,611	deals
Available NCUSIP of both acquirer and target upon announcement	3,739	deals
Entry into the merger agreement verified in EDGAR filings	3,278	deals
CRSP variables in previous quarter, at least two firms per industry	3,216	acquirers
	3,240	targets

Table A3: Content of 8-K filings during the transaction period

Panel A. Before August 23, 2004 (N = 6,278)

	Percentage
Item 1 Changes in Control of Registrant	0.061
Item 2 Acquisition or Disposition of Assets	0.112
Item 3 Bankruptcy or Receivership	0.003
Item 4 Changes in Registrant's Certifying Accountant	0.007
Item 5 Other Events	0.784
Item 6 Resignation of Registrant's Directors	0.001
Item 7 Financial Statements and Exhibits	0.762
Item 8 Change in Fiscal Year	0.003
Item 9 Regulation FD Disclosure	0.068
Item 10 Amendments to the Registrant's Code of Ethics	0.000
Item 11 Temporary Suspension of Trading Under Registrant's Employee Benefit Plan	0.001
Item 12 Results of Operations and Financial Condition	0.042

Panel B. After August 23, 2004 (N = 12,789)

	Percentage
Item 1.01 Entry into a Material Definitive Agreement	0.213
Item 1.02 Termination of a Material Definitive Agreement	0.013
Item 1.03 Bankruptcy or Receivership	0.000
Item 1.04 Mine Safety - Reporting of Shutdowns and Patterns of Violations	0.000
Item 2.01 Completion of Acquisition or Disposition of Assets	0.037
Item 2.02 Results of Operations and Financial Condition	0.182
Item 2.03 Creation of a Direct Financial Obligation or an Obligation under an Off-Balance Sheet Arrangement of a Registrant	0.054
Item 2.04 Triggering Events That Accelerate or Increase a Direct Financial Obligation or an Obligation under an Off-Balance Sheet Arrangement	0.001
Item 2.05 Costs Associated with Exit or Disposal Activities	0.003
Item 2.06 Material Impairments	0.003
Item 3.01 Notice of Delisting or Failure to Satisfy a Continued Listing Rule or Standard; Transfer of Listing	0.004
Item 3.02 Unregistered Sales of Equity Securities	0.010
Item 3.03 Material Modification to Rights of Security Holders	0.012
Item 4.01 Changes in Registrant's Certifying Accountant	0.003
Item 4.02 Non-Reliance on Previously Issued Financial Statements or a Related Audit Report or Completed Interim Review	0.001
Item 5.01 Changes in Control of Registrant	0.001
Item 5.02 Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers	0.114
Item 5.03 Amendments to Articles of Incorporation or Bylaws; Change in Fiscal Year	0.030
Item 5.04 Temporary Suspension of Trading Under Registrant's Employee Benefit Plans	0.002
Item 5.05 Amendment to Registrant's Code of Ethics, or Waiver of a Provision of the Code of Ethics	0.002
Item 5.06 Change in Shell Company Status	0.000
Item 5.07 Submission of Matters to a Vote of Security Holders	0.039
Item 5.08 Shareholder Director Nominations	0.000
Item 7.01 Regulation FD Disclosure	0.190
Item 8.01 Other Events	0.446
Item 9.01 Financial Statements and Exhibits	0.800

This table presents frequency of each 8-K item in 8-K filings during the transaction period by acquirers of 3,278 deals.

Table A4: Summary statistics for targets

VARIABLES	(1) N	(2) mean	(3) sd	(4) p5	(5) p25	(6) p50	(7) p75	(8) p95
N_8k	3,240	4.402	5.189	0	1	3	6	14
Size_8k	3,240	11.773	4.255	0	12.076	12.788	13.960	15.941
Agmt_filing	3,240	0.830	0.376	0	1	1	1	1
Relative_value	3,240	1.651	0.776	0.939	1.219	1.446	1.811	3.123
Cash_payment	3,240	0.190	0.392	0	0	0	0	1
Horizontal	3,240	0.389	0.488	0	0	0	1	1
N_days	3,240	151.892	87.878	61	93	132	182.500	318
Size	3,240	5.486	1.875	2.623	4.109	5.336	6.732	8.778
Instown	3,240	0.421	0.306	0.013	0.151	0.375	0.683	0.940
N_analysts	3,240	4.821	6.034	0	0	3	7	18
Return	3,240	0.042	0.272	-0.395	-0.095	0.027	0.164	0.509
Volatility	3,240	0.034	0.022	0.011	0.018	0.027	0.043	0.083
MTB	3,035	1.782	1.495	0.865	1.031	1.227	1.914	4.530
ROA	3,035	-0.008	0.056	-0.113	-0.002	0.003	0.013	0.038
Loss	3,035	0.276	0.447	0	0	0	1	1
Leverage	3,035	0.198	0.203	0	0.023	0.144	0.311	0.616

This table presents summary statistics of main variables the target sample. The variable *N_8k* is the number of 8-K filings during the transaction period, *Size_8k* is logarithm of 1 plus the total size of all 8-K filings during the transaction period, *Agmt_filing* is an indicator equal to 1 for timely filing of the merger agreement within 15 days since the entry into the agreement, *Relative_value* is transaction value divided by market capitalization, *N_days* is the number of days in the transaction period, *Cash_payment* is an indicator equal to 1 if the deal is financed by cash only, *Horizontal* is an indicator equal to 1 if the deal is between firms of the same industry, *Size* is logarithm of market capitalization, *Instown* is percentage of institutional ownership, *N_analysts* is the number of analysts following, *Return* is buy-and-hold stock return, *Volatility* standard deviation of daily stock return, *MTB* is market capitalization divided by total assets, *ROA* is income before extraordinary items divided by total assets, *Loss* is an indicator equal to 1 if net income is negative, and *Leverage* is total long-term debt divided by total assets.

Table A5: Shareholder voting and disclosure: Alternative specifications

VARIABLES	(1) Ln_vol8k	(2) Ln_items	(3) Ln_exhibits	(4) N_8k	(5) Ln_8k
Vote	0.122***	0.137***	0.181***	0.076***	0.117***
	(0.024)	(0.026)	(0.028)	(0.024)	(0.018)
Relative_value	0.071***	0.110***	0.137***	0.102***	0.079***
	(0.023)	(0.030)	(0.031)	(0.026)	(0.021)
Ln_days	0.578***	0.662***	0.620***	0.796***	0.374***
	(0.028)	(0.039)	(0.047)	(0.035)	(0.022)
Cash_payment	-0.147***	-0.176***	-0.214***	-0.125***	-0.106***
	(0.026)	(0.027)	(0.038)	(0.037)	(0.023)
Horizontal	0.064***	0.077***	0.062**	0.018	0.048**
	(0.015)	(0.023)	(0.024)	(0.025)	(0.020)
Size	0.050***	0.041***	0.072***	0.079***	0.029***
	(0.010)	(0.014)	(0.026)	(0.017)	(0.008)
Return	-0.006	0.057	0.027	0.015	0.031
	(0.057)	(0.070)	(0.073)	(0.090)	(0.054)
Volatility	2.251**	2.691**	5.437***	2.334*	1.116
	(0.887)	(1.143)	(1.446)	(1.229)	(0.863)
Instown	0.120**	0.263***	0.262***	0.121***	0.119***
	(0.052)	(0.052)	(0.088)	(0.045)	(0.042)
Ln_analysts	0.062*	0.076***	0.027	0.031	0.030
	(0.031)	(0.027)	(0.030)	(0.039)	(0.021)
MTB	-0.003	-0.004	-0.000	-0.015	0.005
	(0.005)	(0.008)	(0.015)	(0.010)	(0.005)
ROA	-0.420	-0.398	-0.618	-0.070	-0.104
	(0.316)	(0.384)	(0.437)	(0.363)	(0.280)
Loss	0.055	0.077*	0.124**	0.134***	0.049
	(0.039)	(0.042)	(0.053)	(0.048)	(0.036)
Leverage	0.052	0.116	0.168	0.232***	0.020
	(0.076)	(0.105)	(0.123)	(0.085)	(0.071)
Ln_8k_ybf					0.347***
					(0.016)
Observations	2,862	2,862	2,862	2,862	2,862
Adjusted R-squared	0.563	0.634	0.493		0.676
Pseudo R-squared				0.454	
Quarter-Year FE	yes	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes	yes

This table presents regression results for the models examining the relationship between shareholder voting and 8-K disclosure using alternative specifications. Columns (1), (2) and (3) use alternative 8-K disclosure measures: *Ln_vol8k*, logarithm of 1 plus the number of 8-K filings during the transaction period with at least one voluntary item, *Ln_items*, logarithm of 1 plus the number items in 8-K filings during the transaction period, and *Ln_exhibits*, logarithm of 1 plus the number of exhibits in 8-K filings during the transaction period. Column (4) uses Poisson pseudo-maximum-likelihood estimator for the count variable *N_8k*. Column (5) uses *Ln_8k*, logarithm of 1 plus the number of 8-K filings during the transaction period, as the dependent variable and includes *Ln_8k*, logarithm of 1 plus the number of 8-K filings during the the same period as the transaction period in the year before, to control for past disclosure. Robust standard errors clustered by industry are in parentheses. ***, **, and * denote statistical significance at 1%, 5% and 10% level, respectively.

Table A6: Shareholder voting and disclosure: Entropy balancing

Before	Treatment:mean	variance	skewness	Control:mean	variance	skewness
Relative_value	0.838	0.522	3.089	0.203	0.155	6.766
Ln_days	5.003	0.233	0.372	4.816	0.253	0.278
Cash_payment	0.020	0.019	6.892	0.317	0.217	0.786
Horizontal	0.444	0.247	0.227	0.362	0.231	0.576
Size	6.759	3.676	0.214	8.125	3.773	0.000
Return	0.043	0.065	0.681	0.033	0.045	0.698
Volatility	0.029	0.000	1.790	0.023	0.000	2.152
Instown	0.485	0.082	0.028	0.577	0.069	-0.314
Ln_analysts	1.781	0.934	-0.414	2.266	0.777	-0.830
MTB	1.925	2.894	3.230	2.086	3.106	2.945
ROA	-0.002	0.002	-3.671	0.009	0.001	-5.082
Loss	0.206	0.164	1.455	0.111	0.099	2.471
Leverage	0.214	0.035	0.872	0.208	0.028	1.096

After	Treatment:mean	variance	skewness	Control:mean	variance	skewness
Relative_value	0.838	0.522	3.089	0.838	2.118	2.054
Ln_days	5.003	0.233	0.372	5.003	0.228	0.141
Cash_payment	0.020	0.019	6.892	0.020	0.020	6.830
Horizontal	0.444	0.247	0.227	0.444	0.247	0.227
Size	6.759	3.676	0.214	6.759	4.045	-0.236
Return	0.043	0.065	0.681	0.043	0.055	0.964
Volatility	0.029	0.000	1.790	0.029	0.000	1.452
Instown	0.485	0.082	0.028	0.485	0.086	0.131
Ln_analysts	1.781	0.934	-0.414	1.781	0.965	-0.446
MTB	1.925	2.894	3.230	1.925	3.736	3.345
ROA	-0.002	0.002	-3.671	-0.002	0.002	-4.110
Loss	0.206	0.164	1.455	0.206	0.164	1.455
Leverage	0.214	0.035	0.872	0.214	0.038	1.454

VARIABLES	(1) Ln_8k	(2) Size_8k	(3) Ln_8k_rlt	(4) Agmt_filing	(5) Exp_synergies	(6) E_forecasts
Vote	0.086***	0.608***	0.136***	0.147***	0.162***	0.055***
	(0.023)	(0.113)	(0.047)	(0.015)	(0.022)	(0.017)
Relative_value	0.113***	0.450***	0.122***	0.075***	0.029**	0.056***
	(0.029)	(0.122)	(0.045)	(0.015)	(0.012)	(0.019)
Ln_days	0.545***	1.019***	0.181***	-0.027	-0.005	0.046**
	(0.034)	(0.258)	(0.049)	(0.025)	(0.017)	(0.021)
Cash_payment	-0.033	-0.404	0.006	-0.011	-0.033	-0.097
	(0.074)	(0.446)	(0.106)	(0.024)	(0.042)	(0.070)
Horizontal	0.042**	0.194*	0.048	0.043**	0.006	-0.014
	(0.019)	(0.111)	(0.034)	(0.021)	(0.021)	(0.018)
Size	0.086***	0.200***	0.055***	0.002	0.023*	-0.000
	(0.011)	(0.052)	(0.010)	(0.008)	(0.012)	(0.009)
Return	-0.018	0.276	0.082	0.049	-0.002	0.094**
	(0.072)	(0.380)	(0.078)	(0.030)	(0.035)	(0.038)
Volatility	-0.047	6.549	1.787	1.489**	-0.033	-2.212**
	(1.306)	(8.180)	(1.793)	(0.689)	(0.782)	(0.974)
Instown	0.104	0.722*	0.018	0.035	-0.031	0.070
	(0.083)	(0.376)	(0.114)	(0.060)	(0.037)	(0.065)
Ln_analysts	0.019	0.113	0.018	-0.004	0.052***	0.024
	(0.034)	(0.169)	(0.028)	(0.016)	(0.016)	(0.016)
MTB	-0.013**	-0.076	-0.015	0.001	-0.029***	0.010
	(0.006)	(0.058)	(0.011)	(0.006)	(0.005)	(0.011)
ROA	-0.232	-2.437	1.037*	0.472	0.372*	-0.028
	(0.309)	(2.903)	(0.588)	(0.329)	(0.211)	(0.211)
Loss	0.091	0.481	0.107	0.035	0.045	-0.096***
	(0.061)	(0.328)	(0.070)	(0.037)	(0.039)	(0.030)
Leverage	0.172	0.472	0.221	0.036	-0.068	0.071
	(0.122)	(0.528)	(0.138)	(0.078)	(0.063)	(0.105)
Observations	2,862	2,862	2,862	2,862	2,862	2,862
Adjusted R-squared	0.664	0.477	0.307	0.226	0.310	0.154
Quarter-Year FE	yes	yes	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes	yes	yes

This table presents comparisons of firm and deal characteristics before and after entropy balancing, and results of WLS estimation of models examining the relationship between shareholder voting and disclosure using weights from entropy balancing. Robust standard errors clustered by industry are in parentheses. ***, **, and * denote statistical significance at 1%, 5% and 10% level, respectively.

Table A7: Continuity of control variables

	Relative_value	Ln_days	Horizontal	Size	Return	Volatility	Instown	Ln_analysts	MTB	ROA	Loss	Leverage
Bandwidth	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
Estimate	0.015	-0.023	-0.283	0.022	0.020	0.002	-0.066	0.115	0.663	0.003	0.088	-0.062
p-value	0.674	0.586	0.323	0.769	0.763	0.867	0.707	0.628	0.384	0.266	0.870	0.865
N	295	295	295	295	295	295	295	295	295	295	295	295
Bandwidth	0.052	0.058	0.046	0.053	0.057	0.075	0.061	0.060	0.084	0.061	0.040	0.067
Estimate	0.015	-0.151	-0.185	0.117	0.037	0.001	-0.123	0.093	0.265	0.018	-0.121	-0.033
p-value	0.651	0.319	0.607	0.792	0.875	0.937	0.372	0.784	0.936	0.250	0.451	0.577
N	128	149	112	131	143	211	160	158	233	158	94	186

This table shows continuity of control variables. RD estimates are obtained using a fixed bandwidth of 10% or data-driven bandwidths proposed by Calonico et al. (2014). In both cases, p-values are constructed using bias-correction with robust standard errors as derived in Calonico et al. (2014). ***, **, and * denote statistical significance at 1%, 5% and 10% level, respectively.

A.2 Data Collection Process

A.2.1 8-K parsing

We develop a set of Python scripts to automatically parse, process and retrieve 8-K filings from EDGAR database. Our algorithm consists of the following two steps: (a) download Edgar indexes and crawl 8-K header information and (b) construct textual variables based on 8-K main reports.

Download Edgar indexes and crawl 8-K header information

First, we download all quarterly indexes from EDGAR for the period 1993Q1-2020Q4 using the *python-edgar* package.[1] The EDGAR indexes are publicly available documents issued by EDGAR to facilitate automated crawling. The EDGAR indexes contain the following information for each filing: company name, form type, central index key (CIK), date filed, file name and filing folder path.[2] After downloading all quarterly EDGAR indexes, we keep EDGAR filings that satisfy all the following conditions: (a) form type being 8-K (b) filed by a company that is either an acquirer or a target in an M&A deal recorded in the SDC database and (c) filing date being within a time period that begins from 7 days before the announcement date and ends on the close date, or within the same time period in one year before the deal. For example, if SDC records an M&A deal between the acquirer A and the target T, which is announced on 2015-3-26 and completed/withdrawn on 2015-8-20. Then we download all 8-K filings of A and T that are filed between 2015-3-19 and 2015-8-20, and between 2014-3-19 and 2014-8-20. We then obtain the url of the *filing folder* webpage[3] for each of the filtered filings.

Second, we extract (a) the identification information and (b) the url of the 8-K main report from the *filing folder* webpage for each of the 8-K filings. The identification information for each 8-K filing includes accession number, cik, company name, reporting period, filing date, 8-K items, sic, fiscal year end, state of incorporation, zip code, irs, film number, public document count, accepted timestamp, number of exhibits and number of graphs, which are structured data and can be used directly in statistical analysis. The purpose of crawling the url of the main report is to use the urls to download the main reports. Apart from the urls of the 8-K main reports, we also manually collect the urls of the M&A announcement press releases, merger agreements and transcripts

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[1]Python-edgar package documentation available at https://github.com/edouardswiac/python-edgar. All quarterly EDGAR indexes are downloaded as of January 12 of 2021.

[2]See https://www.sec.gov/os/accessing-edgar-data.

[3]One example of filing folder webpage is available at https://www.sec.gov/Archives/edgar/data/320193/000119312521237787/0001193125-21-237787-index.htm.

of conference calls, which are sometimes attached to the 8-K filings as exhibits.[4]

Construction of textual variables

We construct textual variables based on main 8-K reports, press releases and conference calls. First, we read the document directly from the EDGAR website using the urls obtained in the last step. Then we clean the HTML tags (if any) by the following procedure. (1) Delete nondisplay section identified by the HTML tag "<div>display:none." (2) Delete all tables that contains more than 4 numbers. (3) Delete all HTML tags using *beautiful soup* package.[5] Second, we examine the following textual attributes using the cleaned texts.

- Pro-forma earnings forecasts in press releases

  We follow Amel-Zadeh and Meeks (2019) to check whether firms provide qualitative pro-forma earnings forecasts in the announcement press releases. Specifically, if in the announcement press release, the acquirer firm mentions (earnings OR EPS OR income OR profit) AND (accretive OR accretion OR additive OR add OR positive OR increase OR contribute OR dilutive OR dilution OR decline OR negative OR decrease OR neutral OR impact), then we set *e_forecasts* to 1, and 0 otherwise.

- Qualitative synergy information in press releases

  We count the number of times that firms mention synergy-related word in the announcement press releases. To do this, we create a word list that includes the following synergy-related words: *synergy*, *synergies*, *cost saving(s)*.

We also identify the 8-Ks that are related to the M&A deals by searching the counter-party's name in the main 8-K report. If the main 8-K report contains the counter-party's name then this 8-K is labeled as a related 8-K.

A.2.2 Voting requirement and shares to be issued

We manually collect voting requirement data from EDGAR. We search the keyword "approval" in all M&A related filings (Form 8-K, 425, S-4, SC 13D, 10-Q and 10-K

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[4]In case that the press releases, merger agreements and conference calls are not attached to the 8-Ks, we extend our manual search for the three documents to other forms filed by the acquirers such as Form 425, S-4, SC 13D, 10-Q and 10-K around the transaction period.

[5]Beautiful soup package documentation available at https://www.crummy.com/software/BeautifulSoup/bs4/doc/

filed by acquirers around the transaction period) and read whether the deal requires the shareholder approval for the acquirer.[6]

In addition, we manually collect the number of shares the acquirer plan to issue to finance the merger mainly from Form S-4 filed by acquirers during the transaction period.[7]

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[6]For instance, one 8-K (https://www.sec.gov/Archives/edgar/data/1141107/000095014407008785/g09627e8vk.htm) states that "the Merger is subject to the *approval* of the shareholders of both ARRIS and C-COR, as well as the receipt of all regulatory approvals, including clearance under the Hart-Scott-Rodino Act." (emphasis added) We deem a voting requirement is triggered for the acquirer if any filings explicitly specify so.

[7]An example of the S-4 containing the number of shares to be issued is available at https://www.sec.gov/Archives/edgar/data/716646/000095013508007887/b73137s4sv4.htm.