Social Media and Corporate Governance:

Acquisitions Under Negative Reactions from Small Investors

Abstract: We investigate whether social media serve as an information intermediary thus enabling small shareholders to play a role in corporate governance. Using 303 large acquisition attempts that are accompanied by a negative stock price reaction at their announcements ("value-reducing acquisition attempts") from 2010 to 2014, we find that the extent to which small shareholders oppose a proposed acquisition via social media (Internet stock message board) could influence the acquirer's decision to withdraw a value-reducing acquisition attempt. We provide evidence that this impact is driven by social media disseminating the information more broadly, creating new content that helps investors understand the implications of the acquisition announcement, shaming managers into changing their decisions, and increasing the managers' risk of being investigated and sanctioned for value-destroying acquisitions by government regulators.

Key words: Social media, Information intermediary, Small shareholders, Acquisition, Corporate governance.

JEL classification: G34, G14, M41

1. Introduction

We ask if social media, which has been a game changer in many aspects of interpersonal exchange, could serve as an information intermediary, enabling small shareholders to play a role in corporate governance. Prior to the advent of social media, a small shareholder faced costs that prohibited her from reaching other investors. For example, she would have to obtain the shareholder lists, which the firm may have only reluctantly made available, then pay for printing, postage, and more if a proxy solicitation firm was hired.[1] These costs together with the prospect that others may simply free-ride on their efforts would effectively discourage small shareholders from playing any meaningful role in corporate governance.[2]

The rise of social media, in particular the Internet stock message board, makes it possible for small shareholders not only to directly contact other investors but also to have their voice heard by the managers, large shareholders, and even government regulators. Firm-specific message boards allow tens of thousands of investors who are interested in the same stock to voice their opinions and exchange information at almost zero marginal cost. Although management could toss letters written to them by shareholders into the trash can, they cannot erase or ignore messages posted on the firm's public message board. They are aware that strongly worded negative comments and personal attacks cause personal embarrassment and may adversely affect their reputation and social standing. Social media may empower individual shareholders to become bona fide monitors, as institutional investors and government regulators regularly track these message boards for potential issues that are to be raised with the management. These effects, taken together, enable small shareholders to have a more meaningful role in governance.

[1] These expenses would not even reach potential investors who may become but are not yet shareholders.
[2] An exception is when he/she expects the payoff is large enough to initiate a class action lawsuit. However, this may not be available in many countries.

In this study, we focus on the impact of small shareholders via social media on a specific type of corporate decision: mergers and acquisitions. It is chosen for more in-depth analysis, as a proposed acquisition often has a significant impact on firm value and thus is more likely to attract intense scrutiny from small shareholders as well as other stakeholders. We investigate whether small shareholders' criticisms of acquisition attempts posted on the Internet stock message board have influence; i.e., whether their negative comments may play a role in persuading managers to withdraw from proposed acquisitions. We examine three possible mechanisms through which negative comments posted by small shareholders could affect managers of the acquiring firm. First, negative comments with potentially informative content could be quickly and directly delivered to a large network of stakeholders through the stock message board. Comments with plausible analyses may compel managers to reconsider the viability of the acquisition. They could also inform other investors concerning the riskiness of the acquisition, causing some investors to "vote with their feet" and to depress share prices. Second, negative comments that "name and shame" managers could lead to a loss in the managers' reputational capital, which may not only reduce managers' labor market opportunities (Dyck and Zingales, 2002; Liu and McConnell, 2013), but may also put them and their family members under strong pressure from social peers. Third, after the social media disseminates the negative comments, insiders' fear of being sanctioned by the CSRC (China Securities Regulatory Commission, the SEC's Chinese counterpart) may affect the extent to which they seek to complete the ill-conceived or self-interested deals.

The ideal experiment to test the proposition that social media has a role in corporate governance requires two conditions. First, sample firms in markets have generally poor governance, and in particular protection of small shareholders' interests is weak. Small shareholders cannot rely on other

means, such as legal remedies and external market discipline, partly due to the country's political and historical paths in corporate ownership developments; e.g., state or major owner dominated. Second, the Internet has high penetration in the country. There are stock message boards for most stocks where small shareholders can communicate. China is a natural choice, as it not only satisfies these criteria but it also has a large enough sample of listed firms with merger announcements to enable more formal statistical analysis.

China is known to have severe agency problems with large shareholders and management exploiting small shareholders. Small shareholders in China have few means to redress insider misconduct. Courts have little experience with private plaintiff-driven litigation (Allen, Qian and Qian, 2005; MacNeil, 2002), and public enforcement of laws, including fines and prison terms for tunneling, has been hampered by the limited authority of the security market regulators (Jiang, Lee and Yue, 2010).

Moreover, the Internet stock message board and financial websites in China, usually under private (non-government) ownership, face fewer restrictions on apolitical communications among investors. Thus, a large number of anonymous messages may disseminate rapidly and widely through the message board. It is quite difficult for large shareholders and management to lessen their influence by attempting to delete messages. The influence of these posted messages is evidenced by the attention of the CSRC in monitoring these stock message boards. The local branches of CSRC have established information monitoring systems[3] to collect information from the stock message board and other media.[4] Under pressure from the knowledge that the CSRC is monitoring, managers of listed

[3] See "Take full advantage of information technology to strengthen supervision on public opinion—the official launch of CSRC Shanghai Securities Bureau's listed firm information monitoring system," published February 18th, 2013 on the official website of CSRC Shanghai Securities Bureau: shanghai.csrc.gov.cn.

[4] A case that CSRC monitors listed firms via stock message board occurred on July 3rd, 2010, when the Zijinshan Copper Mine of Zijin Mining Group (Stock Code: 601899.SH) had a serious accident that involved leaking 9,100 cubic meters of

firms in turn have to pay close attention to the information disseminated on the stock message board. As evidence of management's attention paid to these communications, there have been instances of companies issuing clarifications, presumably in an attempt to contain negative criticisms spreading on these message boards.[5] Thus, these message boards have developed into a platform for small shareholders to make their voices heard.

Our sample consists of 303 acquisitions announced by Chinese listed firms between 2010 and 2014, 262 of which were completed and 41 of which were withdrawn. We obtain 13,496 (out of 74.277 read) acquisition-related comments from the *Eastmoney Internet Stock Message Board*; the site has the majority of Internet message board users in China. To retain the nuances of the Chinese language, which the current generation of machine contextual readers are still deficient in recognizing, we use human readers to read each comment for content and construct variables to describe its analytical depth, tone, and whether it "names and shames" the manager. We also hand-collect each comment's footprints: the number of clicks (viewers) and the number of responses. To summarize, our measures are comprehensive; we try to capture both the quantitative and qualitative aspects of the comments posted on the stock bulletin board for each announced merger attempt in the period studied.

A survey conducted by Shenzhen Stock Exchange given to 1,855 individual small shareholders from eight cities located in six regions of China (Guo, 2009) indicates that the main participants of the stock message board are small shareholders.[6] It shows that 51% of the small shareholders use Internet stock message boards as their primary tool for communicating investment-related information on the

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acid from the plant's wet sewage facilities into the Ting River. Initially, the company tried to cover up the spill and did not make an announcement immediately. It was not until a discussion about the accident in the *Eastmoney Internet Stock Message Board* on July 8th, 2010 that called the attention of the CSRC. Eventually, on July 12th, 2010, the company announced the accident under pressure from the CSRC.

[5] For example, here was a message posted on July24th, 2012 in the *Eastmoney Internet Stock Message Board*: "The Guilin office of Newcapec (Stock Code: 300248.SZ) had lost 16.54 million Yuan." Only three days later, managers of Newcapec announced a clarification to deny the rumor and claimed that the firm's financial condition was healthy.

[6] Previous studies use the stock message board for different purposes. For instance, Zhang and Swanson (2010) use it to construct a measure of small shareholders' sentiment bias.

stocks in which they invest.[7] The survey also shows that the Internet stock message board and financial sites are usually among the first channels from which small shareholders obtain information.

We find pervasive evidence that the greater the number of negative comments posted by small shareholders on the *Eastmoney stock message board* opposing a proposed acquisition over the ten calendar days beginning with the announcement day, the more likely the acquisition will be withdrawn. This result holds even after we control for a large set of internal and external factors that may influence a firm's decision to withdraw from an announced acquisition. The control variables include: a) deal characteristics: stock price reaction at acquisition announcement, negative coverage on the transaction in newspapers and financial websites, acquisition premium, etc.; b) acquirer characteristics: the separation between the controlling shareholder's control right and cash flow rights, institutional ownership, prior related-party transaction, government subsidies, state-owned enterprise dummy, cash flow volatility, recent capital raising activity, etc.; and c) the quality of target: an indicator of state-owned enterprise, target ROA, and leverage. More importantly, when the model includes only the control variables, the explanatory power of the regression model, Pseudo R-squared, is 52%, while after adding the number of negative comments posted by small shareholders on social media, the Pseudo R-squared increases to 66%. The result indicates that the social media effect provides significant explanatory power on managers' decision to withdraw from an acquisition attempt.

To rule out the possibility that small shareholders' negative comments posted on social media are simply rebroadcasting the opinions of conventional media such as newspapers and financial websites on the proposed acquisition, we take two precautionary adjustments. First, we search the content of

[7] Since China has more than 100 million individual small shareholders according to the statistics of CSRC in December 2015, it suggests that about 50 million small shareholders use the stock message boards.

newspaper and financial website articles reporting on the same acquisition from the 605 core newspapers in *CNKI China Core Newspaper Full-text Database*, which account for around 71% of all newspaper circulation in China, as well as the top ten financial websites, which account for around 89% of China's financial website page view based on the statistics from *iUserTracker* in 2014. Then we compute the ratio of articles against the acquisition to all articles related to the acquisition. After controlling for this variable, we find that the effect of small shareholders' negative comments on the deal withdrawal still holds. Our second adjustment is to separate out the time period prior to the first report by newspapers and financial websites; this period is free of the potential confounding effect. We identify the date of the first report of the acquisition after scanning all newspaper and financial website articles and reclassify comments on the stock message board into those before and after the appearance of the first mention in a newspaper or financial website article. We find negative comments posted by small shareholders, both before and after the media's first reporting, to have a strong and significant effect on the acquirer's decision to withdraw from the proposed acquisition.

We further investigate another potential source of confounding effect—whether comments made by small shareholders are influenced by the reports of financial analysts. We first look up the analyst reports around the announcement date and identify the first such report discussing the effect of the acquisition and its date. Again, we then separate the small shareholders' comments into before and after this date. Repeating our analysis, results again show that criticisms by small shareholders in both periods have a strong and significant effect on acquisition withdrawal.[8]

After dealing with the confounding factors we can control, we address a concern that there could exist unobserved factors that may simultaneously contribute to the negative comments of small

[8] We do not calculate the ratio of analyst reports against the acquisition to all related analyst reports, because we seldom find analyst reports that are unfavorable to the proposed acquisition. Only in a few cases did the analyst indicate that the acquisition may have uncertainty that needs to be further investigated.

shareholders and the acquisition withdrawal decision. The relation could produce a potentially spurious relationship between them in the regressions. We employ four alternative methodologies to address this endogeneity problem.

The first methodology we employ is the instrumental variable approach. We choose two suitable instruments for small shareholders' criticisms. We rely on a suggestion proposed by Gurun (2012) and Liu and McConnell (2013), and choose as the first instrument *Media expert*, a dummy variable that equals one if the acquiring firm has at least one media expert (a person with experience in an industry involving Internet websites or other media) on the board, and zero otherwise. The second instrument is *Announcement weekend*, a dummy variable that equals one if the acquisition announcement day is on a weekend or holiday, and zero otherwise. We expect the variables to fulfill the requirements of a good instrument: that the presence of a media expert or the announcement of an acquisition on the weekend or holiday is negatively and significantly related to the number of negative comments on the Internet stock message board, but is unlikely to directly affect the likelihood that managers would withdraw from an acquisition attempt. Our instrumental variable regressions again confirm our earlier results.

The second methodology we use is to examine the direction of causality flowing from the reasons that small shareholders oppose the acquisition attempts to the reasons stated in the final announcement on why the potential transaction is cancelled. We divide the opposing reasons raised by small shareholders on social media and the reasons stated in the final announcement on why the acquisition is cancelled into seven issues: (1) the acquirer overpays for target; (2) the acquisition timing is bad; (3) synergy does not exist; (4) the presence of self-dealing; (5) the acquisition violates regulations; (6) the transaction negatively affects the stock price; and (7) the target is in poor financial

status. We find that the number of negative comments made by small shareholders challenging a certain issue have a significant effect on the likelihood of acquisition withdrawal due to the same issue, but do not have a significant effect on the likelihood of acquisition withdrawal due to other issues. These results establish an action-outcome link between the opposing reasons raised by small shareholders and the reasons causing the withdrawal of an acquisition.

The third methodology we adopt is to utilize a Cox proportional hazard model to examine the extent to which criticisms by small shareholders affect the timing of withdrawal. We find that the larger the cumulative number of comments opposing an acquisition, the sooner the acquisition is withdrawn. The result gives support to the causal interpretation in which criticisms from the small shareholder lead to acquisition withdrawal.

The fourth approach is utilize a natural experiment that provides an exogenous shock on the role of small shareholders' criticisms; i.e., the emergence in China of a firm-specific Internet stock message board in January, 2007. We compare the changes in the probability of value-reducing acquisition withdrawal before and after the emergence of the Internet stock message board (over the 2000–2006 and 2007–2014 periods) while controlling for a large list of factors that could influence the probability of acquisition withdrawal. The natural experiment approach shows that after the emergence of firm-specific stock message boards the likelihood that managers withdraw from a value-reducing acquisition increases by 9%, holding all else constant.

We further provide empirical evidence supporting the three economic channels (information intermediary, shaming manager, government regulation) through which negative comments of small shareholders positively affect manager's decision to withdraw from a value-reducing acquisition. Regarding the information intermediary channel, we find that the acquiring firm's manager is more

likely to withdraw from a value-reducing acquisition when small shareholders' comments posted on the stock message board provide managers more reasoned and in-depth analyses concerning the viability of the acquisition. Regarding the shaming manager channel, our results show that the managers, who may be sensitive to personal attacks or have strongly internalized norms, choose to cancel a much criticized acquisition, possibly to avoid humiliation to themselves and their families from social media. Regarding the government regulation channel, we show that the small shareholders' criticisms are more effective in reversing managers' acquisition decisions when the firms face a higher risk of being scrutinized by regulators or when the local branch of the CSRC is more vigilant in monitoring the companies.

Although we choose China to analyze, our results are applicable to many countries with less developed capital markets or poor governance, as sooner or later they will expand Internet coverage and experience the corresponding growth in social media. Even in the developed markets such as the United States, where small shareholders may have greater voice through other channels, such as class action lawsuits, social media is and will continue to be important sources of low cost communication used to mobilize small shareholders. Social media may play a role in influencing small shareholders in proxy voting, in exposing fraudulent and unethical behaviors by top management, and as a catalyst to effect change in corporate governance. With the aid of social media, small investors may have as much impact as large shareholders and activist investors. See the examples involving Johnson & Johnsons and British Petroleum cited in Maharaj (2011).

The rest of our paper proceeds as follows. Section 2 discusses how our paper is related to the existing literature and the contribution it makes relative to this literature. Section 3 discusses the institutional background in China and develops testable empirical hypotheses. Section 4 describes our

sample, data, and variable construction. Section 5 gives the empirical procedures and reports the empirical results. Section 6 concludes. The Internet Appendix presents three supplemental tables.

2. Relation to the existing literature and contribution

To the extent that our findings can be generalized to other countries, the evidence has important implications for our understanding of the information intermediary role of social media in accounting research. Previous information disclosure platforms, such as press releases and conference calls, preclude or at least limit the extent to which investors at large can respond to and disseminate their own views about firms (Miller and Skinner, 2015). By contrast, the social media platforms such as Facebook, Twitter, and Stock Message Board, enable many more actors to share their views about the firms and disseminate those views widely. Therefore, Lau and Wydick (2014) argue that the proliferation of social media will reduce interest in and resources available to more conventional media, weakening its role while social media becomes more important. Although a number of papers have examined the information intermediary role of business press[9], there is relative little work on that of social media. Blankespoor, Miller, and White (2013) find the use of Twitter in disseminating firm-initiated news could reduce information asymmetry and thus improve market liquidity. Lee, Hutton, and Shu (2015) find firm-specific social media could affect the capital market consequences of firms' disclosure in the context of consumer product recalls. Differentiating from the two studies which investigate how firms use social media to manage their information environment, our paper focus on how retail investors use social media to broadcast and exchange their views, and then

[9] For example, Bushee, Core, and Guay (2010) and Drake, Guest, and Twedt (2014) find that the broader dissemination of information by the press could reduce information asymmetry around earnings announcements and mitigate mispricing of accounting information. Kothari, Li, and Short (2009) find that negative reports from the business press increase the cost of capital and return volatility. Lang, Lins, and Maffett (2012) show that the relation between transparency and liquidity is more pronounced in periods with poor media penetration. Hung, Wong, and Zhang (2012) argue that receiving recognition in political media is one of the reasons why Chinese state-owned enterprises choose to list overseas.

influence the managers' capital allocation decisions.

Our paper is also related to the literature on the corporate governance role of media. Prior studies examine the role of media coverage in detecting accounting fraud (Miller, 2006; Dyck, Morse, and Zingales, 2010), reversing proposed governance violations (Dyck, Volchkova, and Zingales, 2008), curbing private benefits of control (Dyck and Zingales, 2004), improving board quality (Joe, Louis, and Robinson, 2009), removing CEOs with poor performance (Farrell and Whidbee, 2002), monitoring executive compensation (Core, Guay, and Larcker, 2008; Kuhnen and Niessen, 2012) and canceling value-reducing acquisition attempts (Liu and McConnell, 2013). However, all these studies focus on the governance role of conventional media; i.e., newspapers and magazines. We look at the impact of Internet-based social media, in particular the Internet stock message board, on corporate governance. Most importantly, our paper highlights that the emergence of near zero cost social media alleviates the small shareholders' free-rider problem (Grossman and Hart, 1980). Through social media, single small shareholders' previously weak voices are magnified into a much stronger voice, which makes it difficult for managers and regulators to ignore.

Finally, from a broader perspective, this paper introduces the notion that, in the absence of institutions and legal foundations for good corporate governance, alternate governance mechanisms may develop out of the uniqueness in local social and cultural characteristics. In the case of China, it is the aversion to "lose face." This notion of alternate mechanisms to achieve better governance could be of practical interest, as it may be generalized to other emerging market countries such as Russia, India, and Brazil, which have also received a large number of investments from the West. Alternate institutions and local mechanisms may be developed when U.S.-type institutional checks and balances may not exist or be practical.

3. Institutional background and hypotheses development

3.1 Corporate governance of Chinese listed firms

China presents a useful laboratory setting for a study of the impact of small shareholders on corporate governance through Internet media for several reasons. First, the exploitation of small shareholders by insiders in China is very severe. A large number of Chinese listed firms were restructured from existing SOEs (state-owned enterprises) through "carve outs," which does not radically change the ultimate control by some governmental agencies over these listed firms. The SOEs are known to transfer wealth by tunneling from their listed firms. Direct evidence of expropriation of small shareholders by controlling shareholders and management are well documented in several studies. Jiang et al. (2010) and Jia, Shi, and Wang (2013) find that controlling shareholders use inter-corporate loans and loan guarantees to siphon large amounts of funds from their listed firms. Peng, Wei, and Yang (2011) report controlling shareholders conduct related transactions to tunnel funds from their listed firms, and the market reacts unfavorably to the announcements of these transactions. Liu and Lu (2007) argue that earnings management in Chinese listed firms is mainly to support the controlling owners' tunneling activities. Luo, Zhang, and Zhu (2011) find that the consumption of perks is prevalent in Chinese listed firms, at the expense of the small shareholders.

Second, Chinese listed firms do not have effective internal and external governance mechanisms in place to deter insider misconducts. In terms of internal mechanisms, the CSRC implemented in 2001 a mandatory independent director requirement; yet evidence has shown that it contributes little to improve firm performance (Clarke, 2006).[10] Similarly, executive compensation as a governance

[10] In a survey of the professional background of Chinese independent directors, Shi (2001) finds that almost half of the independent directors are educators at universities or researchers in science institutes; both types are unfamiliar with the

mechanism in China does not work well. Firth, Fung, and Rui (2006) report that the CEO pay-performance sensitivity is low and only statistically significant for firms controlled by private block holders. External monitoring is made difficult by chronic poor disclosure and financial opacity. Aharony, Lee, and Wong (2000), Chen and Yuan (2004), and Firth, Rui, and Wu (2011) all find that firms often manipulate accounting information prior to equity raising events.

External institutions such as the legal system are widely perceived as poor in China. Allen et al. (2005) point out that legal protection for investors is woefully less developed in China than in most developing countries found in the La Porta, López-de-Silanes, Shleifer, and Vishny (1997, 1998) samples. Chen (2003) and Zou, Wong, Shum, Xiong, and Yan (2008) argue that China does not have an independent and effective judicial system, and the legal system is not independent of the administrative system. Furthermore, China's legal system emphasizes administrative and criminal sanctions, lacking formal development in civil liability and procedural law. As a result, it is extremely difficult for small shareholders whose interests are usurped by insiders to obtain legal remedy through lawsuits.

Third, and on a positive note, although formal mechanisms play limited roles, the importance of reputation/shaming in Chinese culture may make it possible for small shareholders to influence corporate decisions through shaming the managers via the Internet media. Allen et al. (2005) suggest that some forms of informal mechanisms, such as those based on reputation, may support the fast-growing development of China's economy. In their survey of entrepreneurs in China, when asked about what type of loss concerns them most if their firms were to fail, founders/executives in every firm (100%) put reputation loss as their top priority concern, while only 60% of them said economic

operations of the firms and are reluctant to oppose insiders who hire them and compensate them with high fees.

loss is also a major concern. Thus, it seems that Chinese entrepreneurs attach considerable personal importance to reputation, which could be traced to the influence of the traditional Confucian heritage. The set of beliefs developed by Confucius clearly define family and social orders, as well as conduct. In particular, trustworthiness and reputation are deemed as the guiding principles for life; and stigma from shame regulates and constrains individuals' behaviors.

Overall, the confluences of the three characteristics have created an ideal institutional background for us to study how small shareholders could improve corporate governance through Internet media.

3.2 Hypothesis development

3.2.1 The critical comments of small shareholders and acquisition withdrawal decision

Prior studies suggest that small shareholders could not play any meaningful role in corporate governance, because it is not in the interest of a small shareholder to bear the full cost of monitoring the activities of managers while receiving only a very small fraction of the resulting gains (Grossman and Hart, 1980). However, after the advent of social media in recent year, the out of pocket cost to small shareholders to voice their concerns and other issues related to governance is reduced to almost zero. Through social media, and in particular the Internet stock message board, small shareholders' suggestion and comments on corporate decisions could quickly and directly reach a large network of stakeholders, including managers and other small shareholders, etc. In addition, social media help to coalesce small shareholders to a common cause and organize thousands of small shareholders to have a unified voice. Consequently, they are more likely to get the attention of the government regulators who can then put pressure on the managers.

Managers, whose personal interests do not align with that of the shareholders, make decisions for firms that are partly based on their calculations of own private gains versus private costs. Opposition by outside investors, via social media, create several sources of private costs. These are the loss of reputation capital, and, if enough small investors "vote with their feet" and sell their shares, the depressed share price may reflect poorly on the ability of the managers. Furthermore, the dissemination of negative comments on social media could also trigger an investigation from the government regulators; e.g., increasing the risk of being sanctioned by the CSRC. When these private costs rise partly as a consequence of small shareholders' criticisms of the proposed acquisitions posted on the stock's bulletin board and outweigh the potential personal benefits from the acquisition, the managers would presumably choose to withdraw from the acquisition attempt. Thus, we hypothesize:

H1. *The stronger the opposition by small shareholders to an acquisition on the Internet stock message board, the more likely managers of the acquiring firm will withdraw from the acquisition attempt.*

3.2.2 Economic channels

We propose three channels through which the voices of small shareholders, by launching criticisms on the Internet stock message board, could affect the managers' decision to withdraw from their proposed acquisitions. The testable empirical hypotheses follow.

3.2.2.1 Information intermediary channel

Differentiating from conventional media such as newspaper, television, or radio, social media are comparatively accessible, enabling anyone to create, share, and exchange information; therefore, social media are efficient in disseminating diverse information.

There are limitations to how well the managers of the acquirers could assess the current value of the target and potential gains from the combination. The potential errors in the offering price are further exacerbated by the presence of non-expert managers in the acquiring firms; e.g., managers with production rather than finance backgrounds and managers failing to hire outside investment banks; and by targeting predominantly private firms. In this case, some small investors may possess private information concerning the private targets, and a few may have superior analytical skill. In other words, acquiring managers may find some of the comments posted on the stock board useful in reassessing the value of the target. We hypothesize that the value of the posted comments by the small investors increases with their sophistication and the information content. Thus, we propose the hypothesis:

H2a. *Small shareholders' negative comments with in-depth analysis provide more information for a manager to re-estimate the viability of the acquisition and are more likely to prompt him to withdraw from a value-reducing acquisition attempt than are negative comments with little or no analysis.*

The personal cost to the acquiring managers from their actions; e.g., a proposed acquisition; is partly related to the intensity of the criticisms, as more intense opposition may cause acquirer's share price to decline in the short term and raise the ante for merger failure in the longer term. We capture the intensity of the opposition by the severity of the tone of the comments (to be defined later). We hypothesize that:

H2b. *Small shareholders' negative comments with a more intense tone are more likely to prompt a manager to withdraw from a value-reducing acquisition attempt than are negative comments with a milder tone.*

We conjecture that the negative comments posted by small shareholders may also convey to

other investors information concerning the riskiness of the acquisition. If a large number of a bulletin board's readers are swayed by the opinion of the sender of a negative comment, the comment is deemed more influential. More influential comments are those receiving more attention (or clicks), and more response. We hypothesize that the acquiring managers are more concerned with the more influential negative comments. Although this is a rational response by the acquiring managers, it also implies that they or their staff would have to spend time and resources to monitor their stock's bulletin board to identify the influential negative comments. Thus, we propose the hypothesis:

H2c. *Small shareholders' negative comments that get more attention, or more response from other small shareholders on social media are more likely to prompt a manager to withdraw from a value-reducing acquisition attempt.*

3.2.2.2 Shaming managers channel

A certain percentage of negative comments posted by small shareholders on Internet stock message board aim to "name and shame" the insiders. These comments border on personal attacks directed at the acquirer's managers but may also include directors and the firm's largest shareholders. We conjecture that shaming insiders through the social media could affect managers' decisions in at least three ways:

First, in the spirit of Dyck and Zingales (2002), we propose that the disclosure or just implication of misconduct by insiders on social media could adversely affect their personal reputation in the eyes of their circle of kin, friends, social groups, and peers in the profession. In more severe cases, they and their family members could be the subject of gossip or even ostracism.

Second, for corporate insiders with strong internalized norms, rooted in both the Eastern culture

(e.g., Confucian) and the Western culture (e.g., Christian), shaming may cause them to reflect on their action. They may reevaluate their private costs and benefits of the acquisition. The now greater personal costs from the stigma of "naming and shaming" may tilt their decision toward withdrawing from the acquisition.

Third, managers understand that severe negative criticisms including personal attacks from outside investors do not create a good perception of their job competency. Inability to deal with the situation swiftly (e.g., by withdrawing the merger offer) could adversely affect the manager's pay raises, tenure, or prospects in the managerial job market.

Therefore, in order to protect themselves from losing reputation, job opportunities, and wealth, firm managers are more likely to withdraw from value-reducing acquisitions when they are confronted with effort at "naming and shaming" from small shareholders. Thus, we hypothesize:

H3. *The intensity of "naming and shaming" criticisms of the acquirer's top executives increases the probability of acquisition withdrawal.*

Personal criticisms supported by facts, such as of evidence of self-dealings, could exert greater pressure on executives than unfounded personal attacks alone. Therefore, we hypothesize that:

Corollary 1. *The effect of "naming and shaming" on the manager's decision of acquisition withdrawal is further reinforced by the presence of in-depth analysis.*

The role of "naming and shaming" of management is new in the literature. It is worthwhile to gain greater understanding of this effect on the top managers. Specifically, we seek to provide empirical evidence in support of the two channels of "naming and shaming" discussed earlier. For the first channel on the personal reputation and social cost, we construct a measure of the extent of this cost. It is based on the intuition that wealthy people are concerned with what other wealthy people in

the same social circle think of them. Furthermore, the more people in a manager's social circle, the greater is the social cost from any source of personal embarrassment. We measure the size of social circle by the number of wealthy people in the city where the acquiring firm is located. Thus, we hypothesize:

Corollary 2. *The larger the social circle in which the acquiring firm is located, the greater the reputation loss to the acquiring manager from "naming and shaming," and thus the greater its effect on an executive's decision to withdraw from his proposed acquisition.*

For the second channel of "naming and shaming," we isolate the effect of internalized norms in restraining managers' behavior. Guiso, Sapienza, and Zingales (2004) suggest that strongly internalized norms drive people to donate to charity, donate blood, and obey traffic rules, because they feel obligated to do so. If the acquiring firms are located in the provinces where the people have a stronger level of internalized norms, managers are more likely to realize their misconducts violate social norms after being shamed on social media and thus are more likely to then reverse their decisions. Ang, Cheng, and Wu (2015) show that China has great diversity across provinces in term of social trust and the level of internalized norms. Empirically, they use voluntary blood donation in a province as the proxy variable. We thus hypothesize that:

Corollary 3: *The effect of "naming and shaming" on a manager's decision of acquisition withdrawal is stronger when the acquiring firm is located in a province with a higher level of per capita voluntary blood donation.*

3.2.2.3 Government regulation channel

A distinct feature of social media is that comments are characterized by anonymous authorship.

Participants are more willing to expose insiders' self-dealing behaviors without fear of retribution. We propose a third channel through which small shareholders' criticisms posted on social media could affect acquisition withdrawal decisions: the comments regarding the insiders' self-dealing behaviors may trigger an investigation from government regulators (CSRC) and thus increase the risk of being censured and punished by the CSRC.

The CSRC is the Chinese counterpart of the SEC in the U.S. Below its central office, it has 36 branch offices, and each branch office oversees over 70 companies on average. Critical comments on a company can reach the CSRC and trigger an investigation in two ways. First, each local branch of the CSRC establishes a monitoring system to collect information from the Internet stock message board, financial websites, newspapers, and microblogs. Small investors, knowing that government agencies are monitoring the Internet message board, realize that it could be a near zero cost way to get the CSRC's attention to report wrongdoing by the management, such as fraud and other self-dealing behaviors. Second, in China's two-tier security regulatory system, the CSRC headquarters usually do not re-examine the local branches' regulatory work, suggesting a role for corruption at the local level. However, although companies could avoid the government oversight by bribing regulators (Krueger, 1974), media are known to pressure the CSRC headquarters to scrutinize the activities of the local branches. Social media thus serves as the monitor of both the firms and the local CSRC branches.[11]

We model three aspects of the risks that an acquirer could face under the CSRC scrutiny. First, based on China's regulation, i.e., *Regulation of Major Restructuring and Merger of Listed Companies* (CSRC Order NO. 73 and 109, enacted in 2008 and revised in 2011, 2014), for the large acquisition

[11] What are the costs to the listed companies if they were sued and punished by the CSRC? First, based on China's security law, if the executives, directors, or supervisors of a listing company were given an administrative penalty by the CSRC, the companies are forbidden to issue new equities or new bonds in the next three years. Second, if the top managers of State-owned Enterprise (SOE) receive CSRC sanctions, their political future, in business or in government, is much diminished. Consequently, social media's expose of certain self-serving practices could get the attention of both the management and the regulators.

deal in which the target's total asset, total sales, or book equity exceed 50% of acquirer's total asset, total sales or book equity, respectively, the transaction are required to seek CSRC's approval. In the process of approval, the main issue that CSRC focus on is whether the acquisitions damage the shareholders' interests. Therefore, for the deals which are required to seek CSRC's approval, the negative comments posted by small shareholders on social media are more likely to trigger an investigation because CSRC are known to continuously monitor the social media. The managers' fear of being sanctioned by CSRC may cause them to withdraw from a heavily criticized acquisition. We thus hypothesize:

H4a. *The effect of small shareholders' criticisms on a manager's decision to withdraw from a proposed acquisition is greater for deals which are required to seek CSRC approval.*

Second, as prior studies show that the securities litigation risk is affected by firm characteristics and industry characteristics (see, e.g., Kim and Skinner, 2012), we hypothesize that firms with high risk characteristics are more concerned with critical postings on the stock board the regulators regularly monitor.

H4b. *The effect of small shareholders' criticisms on a manager's decision to withdraw from a proposed acquisition is greater for companies with higher risk of being scrutinized by the regulators.*

Third, as discussed above, the governance effect of small shareholders' criticisms through social media depends upon the regulatory efficiency of the CSRC local branches. There is significant variation across provinces in terms of the level of administrative efficiency of the local government (Fan and Wang, 2011). Consequently, the risk that an acquirer could face CSRC scrutiny, which may arise from critical stock board postings that the local branch monitors, is a function of the regulatory efficiency of the local branch. We thus hypothesize:

H4c. *The effect of small shareholders' criticisms on a manager's decision to withdraw from a proposed acquisition is stronger if the company is located in an area where the regulatory efficiency of the CSRC local branch is greater.*

4. Research design

4.1 Sample

We obtain an initial sample of proposed acquisitions announced between January 1st, 2010 and December 31st, 2014 from *WIND*'s China Mergers and Acquisition Database. The sample period begins in 2010, because the data regarding investors' comments on the Internet stock message board is less complete before 2010.[12]

To be included in the sample for analysis, we require: (1) the potential acquirer must be publicly-traded in either the Shanghai or the Shenzhen Stock Exchange of China; (2) the proposed acquirer must seek to own more than 50% of the target firm's shares in the acquisition attempt; (3) the deal value is equal to or greater than 1% of the market value of the acquirer's equity at the end of the year prior to the acquisition; and (4) the acquisition attempt must be classified as "completed" or "withdrawn." These criteria produce 1,128 acquisitions. We find that the target firms of these 1,128 acquisitions are all private firms, because there are relatively few acquisitions in which both acquirers and targets are public firms in China's M&A market.[13]

As the purpose of our study is to investigate whether social media could play a role in reversing the management's attempt to make a value-reducing acquisition attempt, we concentrate on

[12] According to our statistics, among the 30 acquisitions announced in the year 2009 that meet our sample selection criteria, there are only 10 deals that have had corresponding data on their Internet stock message board. In the year 2010 and beyond, the data on Internet stock message boards is not missing.

[13] According to our statistics, in only 3.3% of acquisition attempts are both acquirers and targets are public firms in China's M&A market during the period from 2000 to 2014.

acquisition announcements that the stock market considered as value reducing; i.e., those resulting in negative abnormal stock returns at announcement. Specifically, we require that the acquiring firm's cumulative abnormal returns (CAR) at the announcement, defined as the sum of the differences between the acquiring firm's daily stock returns and the value-weighted market returns of the Shanghai and Shenzhen stock markets over the three-day interval around the acquisition announcement, be less than zero. This process results in a set of 303 acquisition attempts announced by 278 firms. Of the 303 attempts, 41 (13.5%) are withdrawn and 262 (86.5%) are completed.

Panel A of Table 1 reports the distribution of 303 acquisition attempts by year of announcements. We observe a rising trend in the number of acquisition attempts during the sample period. Panel B gives the distribution of acquisition attempts across industries according to the CSRC industry classification. We use the 2-digit classification for manufacturing and the 1-digit classification for other industries[14]. The proposed acquirers come from 22 different CSRC industries. The top five industries by number of proposed deals are Equipment and Machines (21.12%); Information Technology (9.24%); Metals and Non-metals (8.58%); Oil, Chemicals, Rubber, and Plastic (8.25%); and Drugs and Biological Products (7.92%).

4.2 Social media measures

The comments made by small shareholders on social media are collected from the *Eastmoney Internet Stock Message Board.* This is the natural choice as it is by far the most visited financial website in China. According to the statistics from *iUserTracker*[15], which gathered information from a sample of over 0.2-0.4 million users (families and offices) between January, 2010 and December,

[14] We use 2-digit classification for manufacturing because 59.4% of China's listed companies belong to the manufacturing industry.
[15]The *iUserTracker* is a research product developed by the iResearch Consulting Group. Its website is http://www.iresearch.com.cn/.

2014, the estimated number of daily visitors at Eastmoney.com was 7.2-15.5 million on average, ranking it first among all Chinese websites specializing in finance. In addition, the total browsing time of users on Eastmoney.com accounts for 39%-59% of the total browsing time on all Chinese websites in finance. This figure again makes Eastmoney.com the top finance website of choice, followed by Hexun.com (3.2-12.7%) and 10jqka.com (3.3-6.4%) in a distant second and third.

We use the following two steps to collect acquisition-related comments made by small shareholders on the stock message board. First, we obtain 74,277 comments made in the period over the ten calendar days beginning with the announcement day of the proposed acquisition from the acquiring-firms' *Eastmoney stock message board* by using a "Web-scraper" program.[16,17] Second, we manually read all the 74,277 comments to identify those that are acquisition-related. We define a comment as acquisition-related if the comment includes some keywords such as "acquisition," "merger," "restructure," "offer," "proposed transaction," "bid," "deal," "takeover," "agreement," "negotiation," the name of target firm, the content of the transaction (e.g., the payment method), or do not include the above keywords but could be identified as acquisition-related by reading the context of the comments. We finally identify 13,496 acquisition-related comments.

We choose to read each comment manually as currently available machine/content analysis software products are still not capable of capturing the nuances in Chinese language. The task is exacerbated by new variations of the language usage due to the advent of social media; i.e., new meanings for existing words, new words, abbreviations, etc. In many cases, we must depend on manual reading to identify and classify whether a particular comment is merger related. For instance,

[16] The "Web-scraper" program allows us to collect the following information for each comment: the number of clicks, the number of responses, the title of the comment, the URL link of the comment (which allows us to quickly see the detailed content of the comment), the author of the comment, and the date of the original post.

[17] We do not collect the stock messages for target firms because all the targets are private firms in our sample and the message boards are set up to facilitate communications by investors interested in certain listed firms.

a comment with "transaction" as keyword might refer to stock trading but not to acquisition transaction. We find we could also miss acquisition-related comments that could only be identified from the context. There are studies that suggest the misclassification problem is non-neglectable when using a machine–learning approach. For example, Huang, Zang, and Zheng (2014) show that classification accuracy is only 48.4 and 51.7% when using dictionary-based machine approaches based on the general dictionaries and financial dictionaries in extracting textual opinions from analyst reports. Moreover, with manual reading, we can extract more and subtle information. Specifically, from the identified acquisition-related comments, we are able to construct several variables to measure the comment's expressed attitude (negative/positive/neutral), analytical depth, tone and content of shaming insiders.

4.2.1 Measures of small shareholders' criticisms

We read the comments and classify them into three categories based on the attitude of the comments towards the acquisition: a) positive comments that have favorable opinions toward the acquisition; b) negative comments that oppose the acquisition; and c) neutral comments that mention but do not indicate their attitude toward the acquisition. For a given acquisition attempt, *Log (1+Number of Criticisms)* is defined as the natural logarithm of one plus total number of negative comments that oppose the acquisition attempt. *Proportion of Criticisms* is defined as the proportion of negative comments to all acquisition-related comments.

To alleviate the concern that small shareholders' opinions appearing on the stock message board could be influenced by what they might have read in the articles published in the newspapers or financial websites concerning the acquisition, we further divide the small shareholders' negative comments on a proposed acquisition (*Log* (*1+Number of Criticisms)*) into two separate variables: *Log*

(*1+Number of Criticisms before (after) media)*, defined as the natural logarithm of one plus the number of negative comments that oppose the acquisition attempt before (during and after) the day when the first newspaper or financial website article is published. We search the newspaper articles commenting on acquisition attempts through the *CNKI China Core Newspaper Full-text Database.* The *CNKI* database has been collecting articles from 605 core newspapers in China since 2000 and is updated continuously. The circulation of 605 core newspapers is estimated to account for around 71% of total newspaper circulation in China.[18] We search the financial website articles on the acquisition through the top ten financial websites, which account for 89% of China's financial website page views in 2014 based on statistics from *iUserTracker*.[19]

Similarly, to control for the influence of analysts' report on small shareholders' attitude toward the acquisition, we construct two variables: *Log* (*1+Number of Criticisms before (after) analyst)*, which is defined as the natural logarithm of one plus the number of negative comments that oppose the acquisition attempt before (during and after) the appearance of the first analyst report on the acquisition. Analyst reports are collected from the *Analyst Research Report Website (http://www.51pdf.com.cn)*, which is one of the largest stock-report-sharing websites in China and includes all analyst reports since 2008.

4.2.2 Analytical depth and tone of small shareholders' criticisms

We construct a variable to measure the analytical depth of small shareholders' critical comments (*Depth*). We classify the negative comments into three categories: without analysis, simple analysis, and in-depth analysis and assign a score of 1, 2, and 3, respectively. A typical example of comments

[18] We estimate the percentage of circulation of 605 *CNKI* core newspapers (71%) based on the data of newspaper circulation provided in "The Basic Information of National Press and Publication Industry in 2014," which is published by the State Administration of Press, Publication, Ratio, Firm and Television of China. (see: *http://www. gapp.gov.cn/govpublic/80/965.shtml)*

[19] The top ten financial websites are: *www.eastmoney.com, www.10jqka.com.cn, www.yicai.com, www.xueqiu.com, www.hexun.com, www.cnfol.com, www.ce.cn, www.stockstar.com, www.jrj.com.cn, and www.caijing.com.cn.*

with simple analysis is “How could managers spend 110 million Yuan on a target worth at most 86 million Yuan, especially when there is no other competing bidder?” An example of comments with in-depth analysis is “Although the acquiring firm expresses strong confidence on the merger’s prospects, financial reports of the target show that the marginal profits of the acquirer would be dragged dramatically by target’s poor growth. As shown in announcements, the forecasted figures for target’s net profits from 2010 to 2013 is 12.7, 11.7, 12.8, and 13.3 million Yuan respectively, suggesting a stagnant and possibly decreasing growth rate in the future. The acquisition proposal is of little value to the company and is a self-dealing transaction.” For each acquisition attempt, the analytical depth of small shareholders’ criticisms (*Depth*) is the average score of analytical depth of all negative comments that oppose the attempt. If the acquisition did not receive any negative comments, the variable is assigned a value of zero.

We also develop a measure of the tone of small shareholders’ criticisms (*Tone*). We classify negative comments into three categories according to the level of the tone’s intensity. Specifically, negative comments with mild, strong, and outraged tone are scored 1, 2, and 3 respectively. An example of negative comments with a mild tone is “the acquisition could not improve firm performance.” An example of a strong tone is “the target isn’t worth that much; the acquisition must be a self-dealing transaction!” An example of an outraged tone is “all small shareholders should rise and vote against this self-dealing transaction initiated by the shameless insiders!” For each acquisition attempt, the tone of small shareholders’ criticisms (*Tone*) is the average score of the tone intensity of all negative comments. If the acquisition did not receive any negative comments, we set the value of tone to zero.

4.2.3 Measures of the diffusion of small shareholders’ criticisms

We develop three variables to measure the breadth, or the extent of the diffusion of the negative comments. We try to capture the attention these negative responses receive, the reaction they elicit, and the nature of the reaction as in the extent of support/agreement. The first is the natural logarithm of one plus total number of clicks on all negative comments (*Click*). Suppose there are three negative comments on a given acquisition and the number of clicks is 100, 200, and 150 respectively, then *Click* is calculated as log (1+ (100+200+150)) =6.11. The second is the natural logarithm of one plus total number of responses to all negative comments (*Response*). Suppose there are three negative comments on a given acquisition and the number of responses are 5, 6, and 10 respectively, then *Response* is calculated as log (1+ (5+6+10)) =3.09.

4.2.4 Measures of small shareholders shaming insiders

We manually isolate "personal" negative comments that "name and shame" the insiders, including managers, board members, and large shareholders, from which we construct following new variables. For each acquisition attempt, *Log (1+Shame)* is the natural logarithm of one plus the number of negative comments shaming insiders. We further divide the variable *Log (1+Shame)* into two separate variables based on their analytical depth: *Log (1+ Shame with depth)*, which is the natural logarithm of one plus the number of negative comments shaming insiders with in-depth analysis, and *Log (1+ Shame without depth)*, which is the natural logarithm of one plus the number of negative comments shaming insiders without in-depth analysis. In-depth analysis refers to comments with score for analytical depth at 2 or 3 (see the definition of *Depth*).

4.3 Control variables

To isolate the impact of small shareholders' attitudes on managers' decisions to withdraw from proposed acquisitions from other known factors affecting merger completion, we control for a list of

variables shown in prior studies to be correlated with the likelihood of acquisition withdrawal. The control variables consist of deal characteristics and firm characteristics of acquirers and targets. The daily stock return data and acquiring firms' annual financial and corporate governance information are obtained from the *WIND* database and the *CSMAR* database. The data on deal and target characteristics are collected from the acquisition announcement.

4.3.1 Deal characteristics

Prior studies have shown that managers' decisions to withdraw from proposed acquisitions is correlated with a set of characteristics of the transaction, including the acquiring firm's stock price reaction (CAR) at the announcement of acquisition attempt (Luo, 2005; Kau, Linck and Rubin, 2008; Chikh and Filbien, 2011), media (newspaper) attention (see, e.g., Liu and McConnell, 2013), acquisition premium (Walkling, 1985; Jennings and Mazzeo,1991), the form of payment (Kau et al., 2008), the presence of termination fees (Bates and Lemmon, 2003), the emergence of a competing acquirer (Masulis, Wang and Xie, 2009), the transaction relative size (Luo, 2005; Masulis et al., 2009), and the acquirer's "toehold" ownership of the shares of target (Walkling, 1985; Bates and Lemmon, 2003). Therefore, we include in our regression model as control variables the above deal characteristics, which are calculated as follows.

Acquiring firm's cumulative abnormal returns (*CAR*) at the announcement is measured as the sum of the differences between the acquiring firm's daily stock returns and the value-weighted market returns in the three-day announcement period (-1,+1), where day 0 is the initial announcement day of the proposed transaction.

The disapproval rating of media (*Media against*) is calculated as the fraction of the number of acquiring firm-specific news stories opposing the proposed acquisition to the number of all news

stories about the acquisition reported by newspaper and financial website over a period of ten calendar days beginning with the announcement day of the proposed transaction. For each acquisition attempt, we collect firm-specific news stories about the firm's acquisition attempt from the 605 core newspapers in *CNKI China Core Newspaper Full-text Database*, as well as the top-ten financial websites. To search for acquisition-related news stories, we use the name of potential acquirer and target as keywords to search the database for news stories and manually read these news stories to identify the acquisition-related news stories. Finally, we identify 3,513 newspaper and financial website articles reporting on the acquisition attempts.

Acquisition premium (*Premium*) is calculated as the difference between the offer price and the target firm's book value of equity per share divided by the latter.[20] The offer price is the transaction value divided by the number of target shares acquired in the transaction. Stock as payment method (*Stock dummy*) equals one if the acquisition attempt is financed or partially financed by the acquirer's common stock, and zero otherwise. *Termination fee dummy* equals one if there is a clause imposing a penalty on the party seeking termination, and zero otherwise. *Compete dummy* equals one if a third party made an offer for the target while the original bid was pending, and zero otherwise. *Relative deal value* is defined as transaction value divided by the acquirer's market value at the end of year prior to the acquisition attempt. *Toehold* is defined as the acquirer's "toehold" ownership of the shares of the target firm prior to the transaction.

4.3.2 Acquirer characteristics

Previous work finds that the corporate governance characteristics of acquiring firms, such as the separation between the insider control rights and cash flow rights (Masulis et al., 2009), the presence

[20] In the calculation of premium, we can only use the book value of targets' equity as a benchmark because the target firms in our sample are all private (non-publicly traded) companies.

of institutional investors (Kau et al., 2008; Chen, Harford and Li, 2007), and CEO duality (Chikh and Filbien, 2011), affect managers' decisions on whether to complete a value-reducing acquisition attempt. Therefore, we add the following variables to proxy for the acquirer's corporate governance characteristics. *Separation* is defined as the separation between the control rights and cash flow rights of the acquiring firms' controlling shareholders in the year prior to the acquisition attempt.[21] *Institutional ownership* is the shareholding of the acquiring firms' institutional investors in the year prior to the acquisition attempt. Institutional investors includes mutual funds, security companies, insurance companies, Qualified Foreign Institutional Investors (QFII), National Social Security Funds, and trust investment companies. *CEO duality* is measured as a dummy variable equal to one when the CEO in the acquiring firm is also chairman of the board in the year prior to the acquisition attempt, and zero otherwise.

To exploit the uniqueness of the Chinese environment, we further add several China specific corporate governance variables as controls. They are: *Acquirer SOE dummy*, which equals one if the acquiring firm is a State-owned Enterprise; i.e., its largest ultimate shareholder is a government entity, which can either be the central government (e.g., the Ministry of Finance or the Central Industrial Enterprises Administration Committee) or local governments; and zero otherwise; *Related-party transactions*, which is calculated as the ratio of total value of related-party transactions to total assets of the acquirer in the year prior to the acquisition attempt; *Government subsidies*, which is measured

[21] Following Claessens, Djankov and Lang (2000), when there are multiple control chains; we take control rights to be the sum of the voting rights along the chain with the weakest link of all the holding layers. For example, Controlling shareholder A owns 30% of company B, which in turn owns 20% of company C. In addition, A owns 20% of company D directly, which in turn owns 10% of company C (this share ownership structure constitutes the second control chain of A over company C). As a result, Controlling shareholder A's voting rights over company C are determined as Min (30%, 20%) + Min (20%, 10%) = 30%. We then aggregate direct and indirect voting rights to obtain total control rights. We measure "cash-flow rights" as the controlling shareholder's percentage ownership of profits/losses and dividends of a firm. If there are multiple chains of ownership, then cash-flow rights along each chain are the product of all ownership rights of intermediate companies within that chain. The total cash-flow rights are the sum of all cash-flow rights from all ownership chains. Using the example above, the cash-flow rights of Controlling shareholder A over company C would be calculated as 30%×20% + 20%×10% = 8%.

as the ratio of government subsidies to total assets of the acquirer in the year prior to the attempt; and legal protection of investors (*Law*) is the level of legal protection of investors in the province where the acquiring firm is located. The Law index is obtained from the National Economic Research Institution (NERI) Indices[22], which are constructed by Fan and Wang (2011) and Wang, Yu, and Fan (2013). They conduct surveys periodically of a representative sample of enterprises in each province regarding the legal environment and judicial efficiency in protecting lawful business activities. NERI provides only the Law index of the year 2009 and 2012. Given that our sample period is 2010-2014, we use the Law index of 2009 for the observations before 2012, and the Law index of 2012 for the observations in and after 2012.

In addition to the corporate governance characteristics, the acquirer's financial status may also affect the managers' decisions of whether to abandon value-reducing acquisition attempts, so we control for the following three variables: *Acquirer size*, which is measured as the logarithm of the market value of equity at the end of the year prior to the attempt; acquirer's capital raising activity (*Equity financing*), which is measured as the total amount of equity financing rounds raised by acquiring firm through IPO (Initial Public Offering) and SEO (Season Equity Offering) over the three-year period prior to the acquisition attempt divided by total assets in the prior year; and *Cash flow volatility*, which is defined as the standard deviation of the fraction of acquirer's annual cash and cash equivalents balance to total assets during the five-year period prior to the acquisition attempt.

Finally, for companies that receive more attention from social media, where there are greater participation by the small investors, one can expect small investors to have more influence on the

[22] The NERI indices are widely used by economists and other social scientists in studying Chinese institutions (e.g., Wang, Wong, & Xia, 2008).

company's actions, including the decision to withdraw from an acquisition attempt. We thus add a control variable, *Social media attention*, which is measured as the natural logarithm of one plus total number of comments on the acquirer-specific stock message board over the period from 12 months to 3 months prior to the announcement of the acquisition attempt.

4.3.3 Target characteristics

We conjecture that the quality of the target firms could influence the decision of managers to withdraw a proposed acquisition. As all of our target firms are private companies with little data available, we could only obtain from acquisition announcement the following three variables to proxy for the target characteristics: *Target SOE dummy*, which is a dummy equal to one if the target's largest ultimate shareholder is a government entity, which can either be the central government or local governments, and zero otherwise; *Target ROA*, defined as the ratio of net income to total assets of the target firm in the year prior to the announcement; and *Target leverage*, defined as its debt-to-asset ratio in the year prior to the announcement.

4.3.4 Summary statistics

Table 2 presents the summary statistics of the control variables for the set of completed and withdrawn acquisition attempts along with the statistical tests as to whether the means and medians are statistically different between the two groups.

Panel A of Table 2 reports the univariate comparisons of the deal characteristics. We show that the mean and median acquirer CARs are -6% and -7%, respectively, for withdrawn attempts and -4% and -4%, respectively, for completed attempts. The differences are statistically significant. This variable could be a significant determinant of the acquirer's decision to withdraw, and we make certain to include it, as well as other similar variables, in our analyses to follow. The mean

disapproval rating of newspapers and financial websites to the proposed acquisition are much larger in withdrawn transactions (30%) than in completed transactions (3%). The mean and median acquisition premiums of abandoned attempts (7.24 and 3.41, respectively) are more than twice those of completed attempts (3.59 and 0.96, respectively). Among the transactions that are withdrawn, the percentage of the acquisition attempts financed or partially financed by the acquirer's common stock (34%) is significantly higher than that of completed transactions (14%). The mean and median relative size of the transaction in withdrawn attempts (31% and 11%, respectively) are significantly greater than those of completed attempts (6% and 3%, respectively).

Panel B of Table 2 reports the univariate comparisons of acquirer and target characteristics. Acquirers that complete their attempts are more likely to be State-owned Enterprise (SOE). Of acquiring firms, 37% are SOE in the completed transactions, while only 20% of acquirers are in the withdrawn transactions. The level of government subsidies to the acquirer in the year prior to the proposed acquisition is significantly higher for acquirers with abandoned attempts than for those of completed attempts. In abandoned attempts, the average level of investor legal protection in the province where the acquirer is located is significantly higher than in completed attempts. The acquirers that complete their attempts have significantly larger equity market capitalization than those that abandon attempts. Acquirers that withdraw from their attempts attract less attention from the stock message board than do acquirers that complete attempts during the period from 12 months to 3 months prior to the announcement. In terms of the target characteristics, we find that mean and median leverage of the target firm for abandoned attempts (61% and 66%, respectively) is significantly higher than for those of completed attempts (50% and 54%, respectively). Table A1 in the Internet Appendix reports the correlation matrix of the independent variables.

5. Empirical analyses and results

In this section, we start by comparing the key independent variables between completed and withdrawn transactions. We then use a probit regression model to examine the extent to which criticisms by small shareholders affect managers' decisions to withdraw from proposed acquisitions. We also employ four alternative methodologies to identify the direction of causality flowing from small shareholders' criticisms to acquisition attempt withdrawal. Finally, we explore why criticisms by small shareholders on the stock message board matter to the managers. We test three economic channels through which a criticism can operate: information intermediary, shaming manager, and government regulation.

5.1 Univariate analysis of key independent variables

Table 3 presents the univariate comparisons of the key independent variables. The mean and median number of negative comments to a proposed acquisition on social media (*Number of Criticisms*) are 16.50 and 13.00, respectively. The mean and median of total number of negative comments for the withdrawn acquisition attempts (38.88 and 40.00, respectively) are three times greater than are those of the completed attempts (12.99 and 12.00, respectively). The mean and median of the total disapproval rating among small shareholders (*Proportion of Criticisms*) are 72% and 74%, respectively, for the withdrawn attempts, but only 29% and 29%, respectively, for the completed attempts. The differences are statistically significant at the 1-percent level. The mean number of negative comments of small shareholders before and after the appearance of the first newspaper or financial website article on the acquisition are 2.71 and 13.78, respectively. The mean number of negative comments before and after the first news article (analyst reports) in the withdrawn

transactions are both larger than those in the completed attempts. These results are consistent with our hypothesized prediction that the stronger an acquisition attempt is opposed by small shareholders on the stock message board, the more likely it will be withdrawn in the end.

We find that small shareholders' negative comments on the transactions that are ultimately withdrawn usually contain a deeper analysis and stronger tone than the negative comments on transactions that are completed. Furthermore, the influence of the negative comments, measured as the natural logarithm of one plus the total number of clicks they receive, and number of responses are significantly greater for withdrawn attempts than for completed attempts. More interestingly, we find that withdrawn attempts receive an average of 4.93 negative comments "naming and shaming" insiders, while completed attempts only draw an average of 0.79 such comments. When we narrow our attention to those comments not only "naming and shaming" insiders but also with in-depth analysis, withdrawn and completed attempts on average receive 3.37 and 0.34 such comments, respectively.

We further divide the small shareholders' negative (positive) comments into nine categories based on the reasons they oppose (support) the acquisition attempts: the acquirer overpays (pays fairly) for target, the acquisition timing is bad (good), synergy does not (does) exist, presence (non-presence) of self-dealing, the acquisition does (not) violate the regulations, the transaction negatively (positively) affects the stock price, the target is in poor (good) financial status, other reasons, and no reason given.

In Panel A of Table 4, we compare the average number of small shareholders' negative comments under different reasons opposing the acquisition attempts between the withdrawn and completed attempts. We find that for almost all types of opposing reasons, the average number of negative comments for withdrawn attempts is significantly greater than for completed attempts. For example,

for withdrawn attempts, the mean number of small shareholders' negative comments mentioning overpayment in the offer is 1.76, while the same negative comments to completed attempts is only 0.39. We also show that the two most frequently-mentioned reasons opposing the mergers are that the transaction affects the stock price negatively, and that the acquisition involves self-dealing. They account for 41.17% and 19.34% of the total negative comments, respectively.[23]

In Panel B of Table 4, we compare the average number of small shareholders' positive comments under different reasons supporting the acquisition between the two groups. We find that in six out of nine supporting reasons, the average numbers of small shareholders' positive comments for completed attempts is significantly greater than for withdrawn attempts. The two most frequently-mentioned supporting reasons are the transaction could have a positive effect on stock price (38.65%), and the target is financially healthy (18.83%).

To summarize, Table 4 shows that when we divide the negative (positive) comments into nine categories based on the reasons opposing (supporting) the acquisition attempts, the average number of negative (positive) comments in most of categories for the withdrawn attempts are significantly greater (lesser) than for completed attempts.

5.2 Probit regressions of acquisition attempt withdrawal

To verify our postulated hypotheses on the extent to which criticisms by small shareholders affect acquisition withdrawal, we use the following probit model:

$$Prob\ (Withdrawal) \backsim \alpha + \beta\ log\ of\ (1 + Number\ of\ Criticisms) + \gamma\ Control\ variables + \delta\ Year\ Dummies + \theta\ Industry\ dummies + \varepsilon \quad (1)$$

where the dependent variable, *Withdrawal,* is a dummy variable that equals one for withdrawn

[23] Note that in Table 4 the sum of the average number of negative comments in nine categories (i.e., 29.52) is larger than the average number of negative comments in Table 3 (i.e., 16.50), because one negative comment could be assigned to more than one categories if it includes several dissenting reasons.

acquisitions and zero for completed acquisitions. The explanatory variable, the number of negative comments of small shareholders (*Log (1+Number of Criticisms)*), is the natural logarithm of one plus total number of negative comments that oppose the acquisition attempt during the period over the ten calendar days beginning with the announcement day. The control variables include deal characteristics and firm characteristics of the acquirer and the target, both of which are defined and discussed in section 4.3. We also control for the year and industry fixed effects. The industry classification is based on the Industry Classification Standard of the CSRC.

Table 5 presents the estimated results of model (1). Column 1 reports the results of the baseline regression model, which only includes the control variables. We find that the coefficient of announcement *CAR* is negative and statistically significant, which indicates managers "listen to the market;" i.e., the more negative the stock price reaction is to a proposed acquisition announcement, the greater is the likelihood that the transaction will be cancelled. The result is consistent with the findings of Luo (2005), Kau et al.(2008), and Chikh and Filbien (2011). We also find that acquisition attempts are more likely to be withdrawn when the acquisition premium is higher, the relative deal value is larger, and the institutional investors hold a larger percentage ownership of the acquiring firms. On the other hand, attempts with a clause specifying a termination fee in the preliminary acquisition agreement and those launched by acquirers with greater market equity capitalization are less likely to be withdrawn. These findings are consistent with prior studies (see, e.g., Jennings and Mazzeo (1991), Masulis et al. (2009), Chen et al.(2007), Bates and Lemmon (2003), Kau et al. (2008), and Liu and McConnell (2013)).

As for the control variables included in our model but not found in previous studies, we find that the greater the level of investor legal protection in the province where the potential acquirer is

located, the greater is the likelihood the acquirer withdraws from an acquisition that may potentially destroy investors' wealth. It suggests that the courts could provide better protection for the small investors in the provinces. The leverage of the target firm is positively associated with the likelihood that the proposed acquisition will be withdrawn. The result may due to the investors' (and later, acquirer's) concern that buying a high-leverage company increases their debt burden. Finally, proposed acquisitions made by acquirers with greater agency concerns as evidenced by their greater incidence of related-party transactions in prior years are also more likely to be withdrawn. They are more likely to face scrutiny from the CSRC, once called to attention by the small investors on the stock board.

In Column 2, when *Media against* is added to the regression, the Pseudo R-squared, which represent the overall explanatory power of the model, increases from 36% to 52%. A one-standard deviation increase in the disapproval rating by the newspapers and financial websites (16.8%) increases the probability that managers withdraw from the transaction by 6.6%.[24] This result is consistent with Liu and McConnell's (2013) main finding that the stronger the opposition from printed news media, the more likely managers will withdraw from the proposed acquisition. Note that after adding *Media against*, the coefficient of *CAR* becomes insignificant. Due to the extent to which newspaper and financial website articles opposing an acquisition attempt is negatively correlated with the stock price reaction to the acquisition announcement (ρ=-0.19, p<0.01), the level of *Media against* might absorb the effect of *CAR*.

In Column 3, we further add the number of negative comments of small shareholders (*Log (1+Number of Criticisms)*) into the regression model. We find that the coefficient of *Log (1+Number*

[24] The marginal probability effect of *Media against* is obtained by using Stata command "mfx" following the probit regression. We employ the same method in calculating marginal probability effect of other variables hereafter.

of Criticisms) is positive and significant at the 1-percent level, even after controlling for deal and firm characteristics. The economic significance is also substantial. A one-standard-deviation increase in *Log (1+Number of Criticisms)* (0.77) increases the probability of acquisition withdrawal by 3.2%. Most importantly, after adding *Log (1+Number of Criticisms)*, the overall explanatory power of the regression model, Pseudo R-squared, increases from 52% in Column 2 to 66% in Column 3.

After adding the effect of social media, the magnitude and significance of the effect of conventional media (*Media against*) decrease dramatically. A one-standard-deviation increase in *Media against* only leads to an increase in the probability of acquisition withdrawal by 1.7%, which is smaller than the corresponding effect of *Log (1+Number of Criticisms)* (3.2%). The result indicates that criticisms in social media (i.e., the Internet stock message board) rather than in conventional media (i.e., newspapers and financial websites) provide the more important explanation as to whether an acquisition is finally withdrawn.

To rule out the possibility that small shareholders' critical comments on social media are only taking the lead from and repeating the opinions of newspaper and financial website articles on the proposed acquisition, we take two precautionary measures. First, we add a variable indicating the disapproval rating by the conventional media; i.e., newspapers and financial websites. Second, we divide the small shareholders' criticisms variable into two sets by sub-periods: before and after the appearance of the first newspaper or financial website article making a commentary on the acquisition. The first variable (before media reporting) is free from the influence of conventional media. We find this variable remains significant at 5-percent level (see Column 4). The result provides further evidence that small shareholders' criticisms posted on social media have independent influence on managers' decisions to withdraw from acquisitions; they are not merely following the conventional

media's criticisms.

There is a similar concern that what is found to be due to small investors via the stock board is due to what small investors learn from the professional analysts, as some analysts are known to make commentaries or issue reports on merger offers. In Column 5, we separate small shareholders' comments into before and after the first analyst's report commenting on the acquisition, and find that small shareholders' negative comments in both periods to have strong and significant effect on acquisition withdrawal. This result, especially the first variable (before analyst reports), is significantly positive, indicating that the effect of the small shareholders' criticisms on acquisition withdrawal cannot be attributed to the small investors following the published opinions of the professional analysts.

A third concern is that companies that have received more attention in social media prior to the merger offer can naturally expect greater attention (as in more postings on their stock board) during the offer period. Although more attention does not favor more positive or negative postings, it is still possible, for the same number of positive and negative postings, negative postings may receive more attention from other small investors, the acquirer's and target's management, and the regulators. To deal with this problem, we add a variable measuring the extent of attention a firm receives in social media in the year prior to the acquisition announcement. We find that the effect of small shareholder criticisms in the regression is still robust, which indicates that our results could not be attributed to the spurious correlation caused by the omission of social media attention.

To summarize, results in Table 5 support *H1*, that the more small shareholders oppose an acquisition on the Internet stock message board, the more likely that the acquisition is to be withdrawn.

5.3 Addressing an endogeneity problem

An immediate concern with our result is the potential issue of endogenous relationships between the likelihood of acquisition withdrawal and the extent of small shareholder criticisms. Basically, there are two frequently-occurring endogeneity problems. First, outcome and explanatory variables could be simultaneously determined. Second, a variable that affects both outcome and explanatory variables is not included in the regression model. Our result is less likely to be due to the simultaneously-determined problem because the events of small shareholders posting negative comments on the social media occur before the announcement of the acquisition withdrawal.[25] A concern with our result is the omitted variable problem. Although we have addressed this issue in part by controlling for a large list of variables on deal and firm characteristics, there are still some unobserved factors such as information uncovered during the course due diligence work that may contribute to both the likelihood of acquisition withdrawal and the extent of small shareholder criticisms and thus produce a potential spurious relationship between them.

To deal with this issue, we employ four different methodologies. The first is the instrumental variable approach. The second is to examine the direction of causality or the time order between the reasons that small shareholders oppose the acquisition attempts to the reasons stated in the final announcement on why the proposed acquisition is cancelled. The third methodology is to estimate a Cox proportional hazard model to examine the relation between measures of criticisms by the small shareholders and the timing of the decision to withdraw the offer. The last approach we use is relying on a natural experiment to identify the causal mechanism between small shareholder's criticisms and

[25] We collect the negative comments of small shareholders over the period ten calendar days beginning with the initial announcement day of the proposed transaction, while all of the final announcement of acquisition withdrawal in our sample occur beyond ten calendar days after the initial announcement day. The shortest time gap between initial announcement of proposed acquisition and final announcement of the withdrawal or completion is 16 days.

acquisition withdrawal decisions.

5.3.1 Instrumental variables approach

We employ the instrumental variable (IV) approach in a two-stage least squares (2SLS) framework. A valid instrument for small shareholder criticisms needs to satisfy two conditions: it is correlated with the measures of small shareholder criticisms (the validity requirement); but it is uncorrelated with the residual in the regression equation for acquisition withdrawal (the exclusion restriction). Based on these two criteria, we find two suitable instruments.

The first instrument is *Media expert dummy*, which equals one if the acquiring firm has at least one media expert on its board of directors prior to the proposed transaction. We classify a director as media expert if his/her resume shows that he/she has experience in an Internet, television, or radio company as an owner, top executive, board member. The directors' experience in media industry are manually identified and collected from the "*Profile of Directors and Senior Managers"* section of the company's annual reports. Of the acquirers that announce value-reducing acquisitions, 22.8% are classified as having a media expert on its board. Gurun (2012) suggest that the companies that employ media experts on the board receive less negative media coverage, as media experts are savvier about taking preventative measures such as hiring better public/investor relation firms. Therefore, we expect that the presence of a media expert on the board to be negatively related to our measure of small shareholders' criticisms on social media. And yet, the presence of a media expert is not likely to directly affect the likelihood of acquisition withdrawal through other channels, especially after controlling for the effect of the negative coverage of other media such as newspapers and financial websites (*Media against*) on the likelihood of acquisition withdrawal.

The second instrument is *Announcement weekend dummy*, which equals one when the initial

announcement day is on a weekend or holiday, and zero otherwise. Of all the acquisitions in our sample, 19.5% are announced on a weekend or holiday. If the initial announcement day is on a weekend or holiday, the small shareholders may pay less attention and thus produce fewer negative criticisms on the Internet stock message board. Therefore, we expect this variable to be negatively correlated with small shareholders' criticisms. Nevertheless, under China's law[26], listing companies need to announce an acquisition attempt within two days after the acquirer and target reach a preliminary agreement. Given that the date of the preliminary agreement is random, the announcement date of an acquisition is also largely determined at random. We thus expect that the probability of the acquirer announcing an acquisition on a weekend or holiday is not likely to be directly correlated with the likelihood of the acquisition being withdrawn.

Table 6 presents the estimated results of the IV regressions. For comparability reasons, in Column 1, we reproduce the estimate of the basic specification of Model 1 using ordinary least squares (OLS). In Column 2, we report the first stage of IV regressions. The two instruments are confirmed to be significant and negative determinants of small shareholders' criticisms. The reported partial F-test statistics and Partial R-square statistics in the first stage confirm that *Media expert dummy* and *Announcement weekend dummy* are strong instruments with an F-statistic of 23.33, exceeding the cutoff of 11.59,[27] and a Partial R-squared of 8.9%. In the second stage (Column 3), we find that the coefficient of the instrumented *Log (1+Number of Criticisms)* is still significantly positive, but its magnitude is around 40% lower than that reported in the OLS model (Column 1). The

[26] See "Regulation on Information Disclosure of Listed Companies" (CSRC Order NO. 40) from www.csrc.gov.cn.

[27] Larcker and Rusticus (2010) demonstrate that when the instrument is only weakly correlated with the endogenous variable, IV methods can produce highly biased estimates even when the variable is only slightly endogenous. This is the so-called weak-instrument problem. In their survey of the weak-instrument literature, Stock, Wright, and Yogo (2002) develop benchmarks for the F-statistic: when the number of instruments is 1, 2, 3, 5, and 10, the suggested critical F-values are 8.96, 11.59, 12.83, 15.09, and 20.88, respectively. If the first-stage partial F-statistic falls below these critical values, the instruments are considered to be weak and the validity of inference is potentially compromised.

result may imply that the unobserved correlated omitted variables would bias the OLS estimate upwards, while the IV estimate corrects for the bias induced by the omitted variables. Although we cannot test whether a single instrumental variable is uncorrelated with the error term in the regression of acquisition withdrawal, we can conduct an over-identifying restrictions test when the number of instruments is greater than the number of endogenous regressors (Wooldridge, 2002). The reported J-statistics from over-identifying restrictions test cannot reject the null of valid instruments. In Column 4 to 6, we use *Proportion of Criticisms* as an alternate measure of small shareholders' criticisms and reproduce the estimates of the alternate specifications in Column 1 to 3. The results are substantially unchanged.

In brief, results of the instrumental variable analysis reported in Table 6 suggest that after correcting the bias caused by the unobserved correlated omitted variables, the small shareholder's criticisms still have a significant impact on the likelihood of acquisition withdrawal.

5.3.2 Examining the direction of causality flowing from criticisms to outcome

We further address the endogeneity (causality) problem by focusing on the action-to-outcome linkage between the dissenting reasons raised by small shareholders on a potential acquisition and the reasons stated in the final announcement by the acquiring firm on why the acquisition is cancelled. The idea is to establish factual linkage that the earlier dissenting posting by the small investors influence the acquiring manager's decision made later. Specifically, we hypothesize that there is a correspondence: the reason given in the final announcement to withdraw the merger offer corresponds only to the same reason raised by the dissenting posting on the acquiring company's stock board and is not related to other dissenting reasons.

We start by divide the dissenting reasons raised by small shareholders on social media into seven

categories: (1) the acquirer overpays for target; (2) the acquisition timing is bad; (3) synergy does not exist; (4) presence of self-dealing; (5) the acquisition violates regulations; (6) the transaction negatively affects the stock price; and (7) the target is in poor financial condition. We then build the linear probability models (LPMs) where the dependent variables are the seven dummy variables, which equal one if the final announcement state that transaction is withdrawn due to a dissenting reason posted earlier among the above seven categories, and zero otherwise (i.e., if the transaction is withdrawn due to some other reasons or is completed). The key independent variables in the LPM model are the seven measures, which are calculated as the natural logarithm of one plus the number of negative comments on a certain issue among the above seven categories.[28] We include the same set of control variables as Model 1.

The estimated results are reported in Table 7. In Column 1, we find the number of comments made by small shareholders criticizing the acquirer overpaying for the target has a significant positive effect on the likelihood of acquisition withdrawal due to overpayment; however, the number of comments on the other six issues have no significant effect on the likelihood of acquisition withdrawal due to overpayment. Similar results are also observed for the other cited dissenting reasons (see Columns 2, 3, 4, 5, 6, and 7). The number of negative comments made by small shareholders on issue *i* have a significant and positive effect of the likelihood of acquisition withdrawal due to the same issue *i*, while the effect of the number of comments on the other issues is statistically insignificant. We also construct an alternate measure of the seven dissenting reasons as independent variables; i.e., the fraction of the number of negative comment on a given issue to the total number from all seven dissenting reasons; and re-estimate the specifications in Table 7. We find

[28] Note that we use LPM specification instead of probit specification, because if we use probit specification some independent variables can perfectly predict the dependent variable and would be automatically dropped, resulting in the loss of observations in the regression.

the results remain substantially unchanged (see Table A2 in the Internet Appendix).

Overall, the results of Table 7 indicate that the dissenting reasons raised by small shareholders on social media in an earlier period have a one-to-one correspondence with the reasons stated in the final announcement on why the acquisition is cancelled. This finding provides further evidence on the direction of causality that is flowing from small shareholders' criticisms to the likelihood of acquisition withdrawal.

5.3.3 Hazard analysis

Another way to alleviate the endogeneity concern is to examine the relation between the extent to which criticisms by small shareholders relate to the timing of reversal of acquisition decision. Accordingly, we build a Cox proportional hazard model where the dependent variable, *Duration*, is the number of days between the acquisition announcement date and withdrawal announcement date, if there is an acquisition withdrawal within 180 calendar days (or 360 calendar days). As for the cases without acquisition withdrawal, the *Duration* is 180 calendar days (or 360 calendar days) following the announcement of a proposed transaction. Of the 303 acquisition attempts, 25 attempts are withdrawn within the 180 days after the announcement, and 39 attempts are withdrawn within the 360 days after the announcement. The key independent variable is the cumulative number of negative comments made by small shareholders on the Internet stock message board during the period from the initial announcement date to the withdrawal announcement date or the end of 180- (360-) day period. We also add the same set of control variables as in Model 1.

Table 8 reports the results of Cox proportional hazard model. The reported coefficient is the hazard ratio of the independent variable. We show that the cumulative number of negative comments on the social media enters positively and significantly. Given that the acquiring firm still does not

withdraw from a value-reducing acquisition at time *t-1* and holding all else constant, when the cumulative number of negative comments made by small shareholders increase by 1, the hazard rate, or the probability the acquiring firm will withdraw from the acquisition at time *t*, increases by between 4.0% and 6.7%, depending on the specification of equation in Table 8. Hence, the result shows criticisms by small shareholders affect not only the probability of acquisition withdrawal but also the timing of withdrawal.

5.3.4 A natural experiment

We use a natural experiment that creates exogenous variation in the small shareholders' criticisms on the Internet stock message board. The natural experiment is the emergence of the first firm-specific Internet stock message board (i.e., *Eastmoney Stock Message Board*) in China on January, 2007. The date marks the demarcation between pre-stock message board period and stock message board period. The emergence of the firm-specific Internet stock message board was due to the development of Internet technology and not due to the heterogeneous characteristics of the firms and the acquisitions. Therefore, the emergence of the Internet stock message board is an ideal source of exogenous shock to the small shareholders' criticisms. It should affect only a firm's acquisition withdrawal decision through its effect on the small shareholders' criticisms. We expect to find an increase in the likelihood that a value-reducing acquisition attempt is withdrawn in the post-January, 2007 period, holding all else constant.

We report supporting evidence of this conjecture in Table 9. We estimate a probit model in which we regress the likelihood of acquisition withdrawal on a dummy indicating whether the announcement date of the acquisition is after the emergence of Internet stock message board, along with the usual set of control variables. The regressions are estimated on a sample of 480 value-reducing acquisition

attempts announced during the 2000-2014 period. This sample is selected based on the criteria described in section 3.1. This sample (480) is larger than the sample (303) used in our main regression model, Model (1), because the former sample (480) has a longer sample period than the latter (2000-2014 vs. 2010-2014). Of the 480 acquisition attempts, 97 are announced before the emergence of Internet stock message board, and 383 are announced after.[29] Our results show that, after the emergence of Internet stock message board, as an acquiring firm experiences an exogenous increase in small shareholders' criticisms posted on stock message board from zero to a positive level, the likelihood of acquisition attempt withdrawal increases by between 9.4% and 49.0%, depending on the specification of equation in Table 9. Overall, the evidence from the natural experiment lends further support to the causal effect of small shareholders' criticisms on likelihood of acquisition withdrawal.

5.4 Economic channels

Our results so far have shown a remarkable and pervasive effect of small shareholders' criticisms on acquisition withdrawal. The next question is why the criticisms from the small shareholders matter. To address this question, we examine three economic channels through which negative comments of small shareholders could affect managers' decisions to withdraw from proposed acquisitions.

5.4.1 The information intermediary channel

Earlier, we suggest that social media, in particular the Internet stock message board, could serve as an information intermediary. It allows small shareholders to directly broadcast dissenting opinions on a proposed acquisition to firm managers and a large network of stakeholders, and thus affect the acquisition withdrawal decision.

In Table 10, we examine this channel in three steps. First, we propose that if information channel

[29] We do not use the 80 proposed acquisitions announced over the period from 2007 to 2009 as our sample in the main analysis, because most of comments at stock message board before 2009 have been deleted by *Eastmoney* to reduce its needs for information storage space.

works, criticisms with more information; i.e., those with in-depth analysis; should have more weight, as they provide insiders useful information concerning the viability of the acquisition (*H2a*). The variable of interest, criticisms with in-depth analysis, is represented by the interaction term between the number of negative comments from the small shareholders (*Log (1+Number of Criticisms)*) and the average analytical depth of negative comments (*Depth*). We re-estimate Model 1 with this variable (Column 1, Table 10) and find the coefficient of the interaction term is positively significant. It suggests that small shareholders' criticisms with in-depth analysis have greater effect in dissuading the management from pursuing the proposed acquisition. The result is consistent with *H2a*.

Second, we propose that the criticisms with more intense tones let the managers feel the outrage of the acquiring firm's small shareholders on what they regard as the management making value-destroying acquisitions, and may prompt the management to respond and reconsider the acquisition (*H2b*). Consistent this conjecture, the results reported in Column 2 indicate that the criticisms with a more intense tone to have greater impact on the management; the interaction term of *Log (1 + Number of Criticisms)* and *Tone* is positive and significant.

Finally, we conjecture that the negative comments posted by small shareholders also inform other investors concerning the riskiness of the acquisition, causing some investors to "vote with their feet" and hence depress share prices. This channel only works if the audience of the social media also shares the same opinion as the message sender. We utilize a unique characteristic of social media to directly measure the reaction of other investors to the negative comments. In particular, we use the number of clicks received by the negative comments (*Click*) to capture the extent to which these comments disseminate among other small shareholders. We use the number of responses to the criticisms (*Response*) to measure the extent to which the other small shareholders are influenced by

these negative comments. Columns 3 and 4 show that negative comments spread widely, which attract more visitors to participate in the discussion of the topic, and thus have a greater impact on the management's acquisition withdrawal decision. These results are consistent with *H2c.*

Overall, the results shown in Table 10 support the information intermediary role of social media. First, managers of acquiring firms could extract information from small shareholders' in-depth analysis. Second, many small shareholders act together—many voices, sympathetic voices, and louder voices—through the vehicle of the Internet stock message board, which make it difficult for insiders to ignore the concerted effort of the small shareholders.

5.3.2 The shaming-managers channel

We examine the second channel, whether the presence of strong personal negative comments on the stock message board "naming and shaming" managers of the acquiring firm could cause the managers to withdraw from the proposed acquisition (*H3*). We find it to be the case. The result in Column 1 of Table 11 shows that the coefficient of *Log (1+Shame)*; i.e., the natural logarithm of one plus the number of negative comments shaming insiders; is positive and statistically significant.

We differentiate between the sources of "naming and shaming," whether it comes from in-depth analysis, such as the exposure of self-interested behaviors, or is just a baseless personal attack. In Column 2, we re-estimate the same model specification but dividing the variable *Log (1+Shame)* into two separate variables based on whether the "naming and shaming" comments include in-depth analysis; i.e., *Log (1+ Shame with depth)* and *Log (1+ Shame without depth)*. We find that the coefficient of *Log (1+ Shame with depth)* is significantly positive; however, the coefficient of *Log (1+ Shame without depth)* is not statistically significant. This finding is consistent with the idea that the personal criticisms supported by facts, as in the case of evidence of self-dealings, are more credible

and thus exert greater pressure on executives than do unfounded personal attacks alone.

We further examine the two mechanisms through which naming and shaming managers could affect their decision to withdraw a proposed acquisition: social pressure and internalized moral restraint. We start by testing whether social pressure (and loss of reputation in the eyes of social peers) is a motivation to avoid shaming. In Columns 3 and 4, we examine whether acquirers' managers are more likely to be affected by public shaming from posted messages when they live in provinces with more wealthy social peers; i.e., top wealth holders. Executives and their family members who live in larger social circles (with more wealthy social peers) have opportunity to interact with each other with greater frequency and thus could face greater social pressures when under professional and personal attacks. In Column 3, we add an interaction term, *Log (1+Shame)*×*Wealth. Wealth,* a proxy for the size of the social peer group, is measured as the number of Hurun China's 1,000 richest individuals in the province where the company's headquarters are located. We find the coefficient on the interaction term is significantly positive. This confirms that managers who live among larger social circles of wealthy people (with more surrounding Hurun 1,000 people) are more concerned with losing face or reputation. They are more likely to take positive actions such as withdrawing from a heavily criticized acquisition to placate outraged small shareholders. Column 4 also shows that the coefficient on the interaction term of *Log (1+ Shame with depth)* and *Wealth* is also positive and significant. Social pressures from wealthy people are greater when negative criticisms are well reasoned. These results support our *Corollary 2*.

In Columns 5 and 6, we further examine whether the internalized moral restraint in a society could affect the reaction of managers in responding to public shaming from small shareholders. We measure the extent to which the people in a society conform to internal norms as the per capita blood

donation in a province (denoted *Blood donation*). It is computed as the milliliters of blood donated voluntarily (without compensation) in a province divided by its population in 2000, the only year with data available from the Chinese Society of Blood Transfusion.[30] We interact *Log (1+ Shame)* (*Log (1+ Shame with depth)*) with *Blood donation* in Column 5 (Column 6). We find that the coefficients of interaction terms in both columns are significantly positive.[31] The results confirm that managers living in areas where people are more willing to conform to internal norms are more affected by "name and shame" criticisms and are more likely to withdraw from much criticized acquisitions (*Corollary 3*). We are concerned that the number of wealthy social peers and the level of blood donation in a province are correlated with the level of market-orientation and therefore that the effect of social peer or blood donation only reflect the impact of market-orientation. To eliminate the suspicion, in Columns 3, 4, 5, and 6, we have controlled for the provincial-level index of market-orientation, which is obtained from NERI Indies.[32] We find that our findings are not driven by the level of market-orientation.

5.4.3 The government regulation channel

With respect to this channel, we hypothesize that after social media disseminates negative comments on a proposed acquisition, the managers' fear of being investigated and sanctioned by the CSRC, as they are aware that the staff of CSRC are monitoring the stock message board, affects the likelihood that managers reverse their decisions to make the value-destroying acquisitions.

[30] There are neither legal nor economic incentives to donate blood. The decision of blood donation is mainly driven by internal norms. In addition, blood donation is not affected by the quality of health care or medical infrastructure among the provinces. Blood donations can be collected only by the National Blood Center of China in accordance with the laws. The Blood Center has operating branches in all provinces, and they adopt the same medical procedures across all regions.

[31] In Columns 5 and 6, the sample is reduced to 299, due to four observations where the blood donation data in the provinces are missing.

[32] The market-orientation index captures the process of market and institutional transition of 31 provinces or special districts in mainland China along five dimensions: the relation between government and markets, the development of non-state sectors, the development of product markets, the development of markets of production factors, and the development of market intermediaries and legal environments.

We examine this economic channel in three steps. First, based on China's regulation which requires that the acquisition of larger target (relative size of target to acquirer exceeding 50%) must seek CSRC approval, we investigate whether the effect of small shareholders' criticisms on the managers' decision of acquisition withdrawal is stronger for the acquisition requiring approval. We identify the transaction requiring approval by manually reading the acquisition announcement. We include the *CSRC approval dummy*, which indicating whether an acquisition requiring CSRC approval, and the interaction between *CSRC approval dummy* and the *Log (1+Number of Criticisms)*. In Column 1 of Table 12, we find that the interaction term is positive and significant. The result supports the hypothesis (*H4a*) that the effect of small shareholders' criticisms on acquisition withdrawal is stronger for the deal requiring CSRC approval. Thus, acquirers of larger targets may expect greater CSRC scrutiny, including CSRC using small shareholders' posting in social media, as part of its investigative process.

Second, we test whether the effect of small shareholders' criticisms on the acquisition withdrawal decision is stronger for the companies with a higher risk of being sanctioned by the CSRC. We adopt the model of Kim and Skinner (2012) to calculate the predictability of a firm being sanctioned by the CSRC in a certain year based on their corporate attributes.[33] *Punishment risk dummy* equals one if the probability that an acquiring firm being sanctioned by the CRSC in the acquisition announcement year is higher than sample median, and zero otherwise. In Column 2 of Table 12, we find the

[33] Following Kim and Skinner (2012), we use the following binomial logistic model to calculate the predicted probability of a firm being sanctioned by CSRC:
$SUED = \beta_0 + \beta_1(FPS_t) + \beta_2(LNASSESTS_{t-1}) + \beta_3(SALES\ GROWTH_{t-1}) + \beta_4(RETURN_{t-1}) + \beta_5(RETURN\ SKEWNESS_{t-1}) + \beta_6(RETURN\ STD\ DEV_{t-1}) + \beta_7(TURNOVER_{t-1}) + \alpha$,
where FPS_t is a dummy variable that equals one if the firm is in the biotech, computer, electronics, or retail industry, and zero otherwise ; $LNASSESTS_{t-1}$ is the natural log of total assets at the end of year t-1; $SALES\ GROWTH_{t-1}$ is measured as year t-1 sales less year t-2 sales scaled by beginning of year t-1 total assets; $RETURN_{t-1}$ is the market-adjusted 12-month stock return for year t-1; $RETURN\ SKEWNESS_{t-1}$ and $RETURN\ STD\ DEV_{t-1}$ are the skewness and standard deviation of the firm's 12-month return for year t-1 respectively; and $TURNOVER_{t-1}$ is measured as year t-1 trading volume accumulated over the 12-month period scaled by beginning of year t-1 shares outstanding.

coefficient of the interaction term between *Punishment risk dummy* and the number of negative comments of small shareholders (*Log (1+Number of Criticisms)*) is significantly positive. These results support the argument in *H4b* that the small shareholders' criticisms are more effective in reversing managers' acquisition decisions among firms that face greater risk of being sanctioned by the regulators.

Third, in Columns 3 and 4 of Table 12, we further examine whether the effect of small shareholders' criticisms on acquisition withdrawal decisions is stronger for the companies located in the provinces where the CSRC's local branches are more efficient in regulating local companies. We obtain from NERI Indices Database two provincial indices regarding the administrative efficiency of the local government to proxy for the regulatory efficiency of the CSRC's local branches. The first index, *Regulatory efficiency 1*, is calculated according to an annual survey of a representative sample of enterprises in each province regarding the nontax expenses levied on enterprises, including informal charges and illegal fines from the local government, as a percentage of sales. The second index, *Regulatory efficiency 2*, is calculated based on the size of local government, which is the fraction of the number of local government employees to the provincial population. A higher value for these two indices corresponds to a higher level of administrative and regulatory efficiency in the local government.[34] We construct two dummies based on these two indices in our regression analysis. *Regulatory efficiency 1 (2) dummy* equals one if the first (second) index of a province is higher than the sample median, and zero otherwise. Consistent with *H4c*, the results reported in Columns 3 and 4 suggest that the positive effect of small shareholders' criticisms on the likelihood that a proposed

[34] The NERI Indices Database uses the following formula to make above two indices positively correlated with the regulatory efficiency of provincial government: Score = $(V_{max} - V_i) / (V_{max} - V_{min}) \times 10$, where V_i is the original score of index *i* in the period of 2001 to 2009 and V_{max} and V_{min} are the maximum and minimum of the original score of all provinces in base year (2001).

acquisition will be withdrawn is stronger when the CSRC's local branch has greater regulatory efficiency.

To summarize, the empirical results in Table 12 support the government regulation channel; i.e., the governance effect of small shareholders' criticisms via social media is stronger when managers are more concerned about being investigated and sanctioned by the CSRC for their acquisition decisions that market participants deem to be contrary to shareholder value maximization.[35]

6. Conclusions

Our paper is among the first in the literature to provide evidence of the power of the crowd—leaders and followers—expressed through the social media. We show that the advent of social media such as the stock message board allows small shareholders to play a role in corporate governance. Part of the reason is the protection of anonymity and practically zero marginal costs with which small shareholders can voice their objections to value-destroying and self-serving management actions.

Based on the unique Chinese data, we find that small shareholders' criticisms on the Internet stock message board to a value-reducing acquisition increase the probability that managers will

[35] One may have concerns that censorship of the Internet could affect the role of social media in disciplining the managers of acquirers (we thank the referee for this suggestion). To address this potential problem, we conduct two robustness test. First, on June 22nd, 2013 the CSRC began to strengthen the regulation of the social media, such as punishing the behavior of releasing via social media undisclosed information and rumors of listed companies (See the webpage of Xinhuanet: http://news.xinhuanet.com/fortune/2013-06/22/c_124895223.htm). The effect of social media on acquisition withdrawal decisions could be reduced, as the small shareholders might not criticize the managers of acquiring-firms freely after regulation. Therefore, we add *Censorship dummy* variable, which equals one if the acquisition announcement date is after June 22nd, 2013, and zero otherwise, as well as the interaction term between *Censorship dummy* and *Log (1+Number of Criticisms)* into our model. The results are presented in Column 1 of Internet Appendix Table A3. We find that the effect of small shareholders' criticisms on the probability of acquisition withdrawal is still significantly positive; however, the interaction term is insignificant. This suggests that Internet censorship does not affect the governance role of social media. Second, the effect of social media on acquisition withdrawal may be lower if the acquirer is a state-owned enterprise, because China's government may censor the criticisms of government-owned companies. To examine this probability, we add interaction term between *Acquirer SOE dummy* and the *Log (1+Number of Criticisms)* into our model. The results show that the effect of small shareholders' criticisms is unchanged however the interaction term is insignificant (Column 2 of Table A3). Again, this result does not support the suggestion that Internet censorship could affect the governance role of social media. The results are not surprising. According the King, Pan, and Roberts (2013), China's government selectively censors the expressed views of the Chinese people: it allows the the criticism of the state, its leaders, and its policies but silences expressions of collective action.

withdraw from the proposed acquisition. The results hold even after we control for a large set of internal and external factors that may influence firms' decision to withdraw from an announced acquisition. To confront the concern that our result is potentially affected by endogenous relationships between the likelihood of acquisition withdrawal and the extent of small shareholder criticisms, we employ four alternative methodologies and find our results are not due to the potential spurious relationships between them. After examining economic channels through which negative comments of small shareholders could affect managers' decisions to withdraw from proposed acquisitions, we find the effect of small shareholders' criticisms on the acquisition withdrawal decision is greater when small shareholders criticize with a stronger tone, when their criticisms include in-depth analysis, and when criticisms are widely diffused. We also find that small shareholders "naming and shaming" managers on the stock message board increases the probability of a proposed acquisition to be withdrawn. This effect is even stronger when the top executives are under greater social pressures—if they live among larger social circle of wealthy people or have strongly internalized norms—as these top executives and their families face more intense pressures from social peers. We also find that the effect is stronger in reversing managers' acquisition decisions when the firms face higher risk of being scrutinized by the regulators or when the local branch of the CSRC is more efficient in monitoring the companies. Thus, we can say that when small shareholders speak via the stock message board, both the management and government regulators (CSRC) listen.

Following prior studies such as Blankespoor, Miller, and White (2013) and Lee, Hutton, and Shu (2015), we believe that our work provides avenues for further research on the role of social media in capital markets. In particular, one promising direction for future research is to further investigate whether and through what mechanisms social media affect other important corporate decisions that

are made by insiders and managers, as well as the associated outcomes.

Moreover, our findings change the perception that small shareholders can only play a limited role in corporate governance. This study extends research on corporate governance and shareholder activism and helps us to understand how alternative mechanisms such as the "naming and shaming" of those who are concerned with reputation could have a role in corporate governance. Future studies can test how the availability of interactive social media platforms enable small shareholders to play meaningful role in corporate governance in other countries.

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Table 1

Distributions of acquisition attempts across years and industries

The table presents the distribution of acquisition attempts across years in Panel A and across industries in Panel B for a sample of 303 value-reducing acquisition attempts made by China's listed companies, with initial bids announced over the period January 1st, 2010 to December 31st, 2014. We classify the acquisition attempts into two groups: attempts that are finally withdrawn and attempts that are finally completed.

Panel A: Distribution of acquisition attempts across years

Year	Completed	Withdrawn	Total	% Of acquisition attempts	% Withdrawn
2010	55	5	60	19.80%	8.33%
2011	39	2	41	13.53%	4.88%
2012	34	9	43	14.19%	20.93%
2013	74	11	85	28.05%	12.94%
2014	60	14	74	24.42%	18.92%
Total	262	41	303	100.00%	13.53%

Panel B: Distribution of acquisition attempts across industries

CSRC industry code and name	Completed	Withdrawn	Total	% Of acquisition attempts	% Withdrawn
A Agriculture, Forestry, Husbandry & Fishery	2	2	4	1.32%	50.00%
B Mining and Quarrying	6	1	7	2.31%	14.29%
C0 Manufacture- Food and Beverages	7	0	7	2.31%	0.00%
C1 Manufacture- Textiles, Suits & Leathers	4	1	5	1.65%	20.00%
C2 Manufacture- Lumber & Wood Products	1	0	1	0.33%	0.00%
C3 Manufacture- Paper & Printing	9	0	9	2.97%	0.00%
C4 Manufacture- Oil, Chemicals, Rubber & Plastic	20	5	25	8.25%	20.00%
C5 Manufacture- Electronics	14	3	17	5.61%	17.65%
C6 Manufacture- Metals & Non-metals	24	2	26	8.58%	7.69%
C7 Manufacture- Equipment & Machines	54	10	64	21.12%	15.63%
C8 Manufacture- Drugs & Biological Products	22	2	24	7.92%	8.33%
C9 Manufacture-Others	2	0	2	0.66%	0.00%
D Electric power, heat, gas and water production and supply	14	2	16	5.28%	12.50%
E Construction	1	0	1	0.33%	0.00%
F Transportation & Warehousing	8	1	9	2.97%	11.11%
G Information Technology	23	5	28	9.24%	17.86%
H Wholesale & Retail Trade	4	1	5	1.65%	20.00%
I Finance and insurance	4	0	4	1.32%	0.00%

J	Real Estate	21	2	23	7.59%	8.70%
K	Social Service	11	1	12	3.96%	8.33%
L	Communication & Culture	4	3	7	2.31%	42.86%
M	Diversified Industries	7	0	7	2.31%	0.00%
Total		262	41	303	100.00%	13.53%

Table 2

Descriptive statistics of key variables

The table presents descriptive statistics for a sample of 303 value-reducing China acquisition attempts announced over the period January 1st, 2010 to December 31st, 2014. Panels A and B describe the mean and median for deal characteristics and acquirer and target characteristics, respectively, both for the whole sample as well as for completed and abandoned acquisition attempts. Statistical tests for differences in means and equality of medians for each characteristic for completed versus abandoned acquisitions are also presented. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively. *CAR* is the sum of the differences between the acquiring firm's daily stock returns and the value-weighted market returns in the three-day announcement period (-1,+1), where day 0 is the initial announcement day of the proposed transaction. *Media against* is the fraction of the number of acquiring firm-specific news stories opposing the proposed acquisition to the number of all news stories about the acquisition reporting by newspaper and financial website over the period ten calendar days beginning with the announcement day of the proposed transaction. *Premium* is the difference between the offer price and the target firm's book value of equity per share divided by the latter. *Stock dummy* is a dummy variable that equals one if the acquisition attempt is financed or partially financed by the acquirer's common stock, and zero otherwise. *Termination fee dummy* equals one if there is a clause imposing a penalty on the party seeking termination, and zero otherwise. *Compete dummy* equals one if a third party made a competing offer for the target while the original bid was pending, and zero otherwise. *Relative deal value* is defined as transaction value divided by the acquirer's market value at the end of year prior to the acquisition attempt. *Toehold* is defined as the acquirer's "toehold" ownership of the shares of the target firm prior to the transaction. *Separation* is the separation between the control rights and cash flow rights of the acquiring firms' controlling shareholders. *Institutional ownership* is the shareholding of acquiring firms' institutional investors. *CEO duality* is a dummy variable that equals one when the CEO in the acquiring firm is also chairman of the board, and zero otherwise. *Acquirer SOE dummy* is a dummy variable that equals one if the acquiring firm is a State-owned Enterprise, and zero otherwise. *Related-party transactions* is the ratio of total value of related-party transactions to total assets of the acquirer. *Government subsidies* is the ratio of government subsidies to total assets of the acquirer. *Law* is the level of legal protection of investors in the province where the acquiring firm is located. *Acquirer size* is the logarithm of the market value of equity at the end of the year prior to the attempt. *Equity financing* is the total amount of equity financing raised by acquiring firm through IPO (Initial Public Offering) and SEO (Season Equity Offering) over the 3-year period prior to acquisition attempt divided by total assets in the prior year. *Cash flow volatility* is defined as the standard deviation of the fraction of acquirer's annual cash and cash equivalents balance to total assets during the 5-year period prior to the acquisition attempt. *Social media attention* is the natural logarithm of one plus total number of comments on the acquirer-specific stock message board over the period from 12 months to 3 months prior to the announcement of the acquisition attempt. *Target SOE dummy* is a dummy variable which equals one if the acquirer's ultimate shareholder is a government entity, which can either be the central government or local governments, zero otherwise. *Target ROA* is the ratio of net income to total assets of the target firm in the year prior to the announcement. *Target leverage* is the debt-to-asset ratio in the year prior to the announcement.

	Full sample(N=303)	Completed(N=262)	Withdrawn(N=41)	Difference

	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Panel A: Deal characteristics								
CAR	-0.05	-0.04	-0.04	-0.04	-0.06	-0.07	0.02***	0.03***
Media against	0.07	0.00	0.03	0.00	0.30	0.25	-0.27***	-0.25***
Premium	4.08	1.28	3.59	0.96	7.24	3.41	-3.65***	-2.45***
Stock dummy	0.17	0.00	0.14	0.00	0.34	0.00	-0.20***	0.00***
Termination fee dummy	0.24	0.00	0.23	0.00	0.32	0.00	-0.09	0.00
Compete dummy	0.05	0.00	0.05	0.00	0.05	0.00	-0.00	0.00
Relative deal value	0.10	0.04	0.06	0.03	0.31	0.11	-0.25***	-0.08***
Toehold	0.01	0.00	0.01	0.00	0.01	0.00	-0.00	0.00
Panel B: Acquirer and Target characteristics								
Separation	0.05	0.00	0.05	0.00	0.03	0.00	0.01	0.00
Institutional ownership	0.10	0.05	0.10	0.05	0.10	0.04	0.00	0.01
CEO duality	0.23	0.00	0.23	0.00	0.27	0.00	-0.04	0.00
Acquirer SOE dummy	0.35	0.00	0.37	0.00	0.20	0.00	0.18**	0.00**
Related-party transactions	0.26	0.12	0.26	0.15	0.32	0.07	-0.06	0.08**
Government subsidies	0.005	0.002	0.004	0.002	0.008	0.004	-0.004*	0.002
Law	5.63	5.37	5.57	5.37	6.01	5.38	-0.44*	-0.01
Acquirer size	22.19	22.14	22.25	22.22	21.82	21.82	0.43***	0.40**
Equity financing	0.20	0.00	0.20	0.00	0.26	0.00	-0.06	0.00
Cash flow volatility	0.07	0.05	0.07	0.05	0.08	0.05	-0.01	0.00
Social media attention	8.02	7.97	8.06	8.06	7.73	7.75	0.33**	0.31**
Target SOE dummy	0.26	0.00	0.27	0.00	0.17	0.00	0.10	0.00
Target ROA	0.06	0.03	0.06	0.02	0.06	0.04	0.00	-0.02
Target leverage	0.51	0.57	0.50	0.54	0.61	0.66	-0.11**	-0.12***

Table 3

Univariate analysis of key independent variables

The table presents the mean and median of key independent variables for the 41 withdrawn and 262 completed acquisition attempts made by China's listed companies over the period January 1st, 2010 to December 31st, 2014. Statistical tests for differences in means and medians for each variable between the two groups are also presented. *, **, and *** denote significant differences at the 10%, 5%, and 1% level, respectively. *Number of Criticisms* is the total number of small shareholders' negative comments that oppose the acquisition attempt. *Log (1+Number of Criticisms)* is defined as the natural logarithm of one plus the total number of negative comments that oppose the acquisition attempt. *Proportion of Criticisms* is defined as the proportion of negative comments to all acquisition-related comments. *Number of Criticisms before (after) media* is the number of negative comments that oppose the acquisition attempt before (during and after) the day when the first newspaper or financial website article is published. *Number of Criticisms before (after) analyst* is the number of negative comments that oppose the acquisition attempt before (during and after) the appearance of the first analyst report on the acquisition. *Depth* is the average score of analytical depth of all negative comments that oppose the attempt. *Tone* is the average score of tone intensity of all negative comments. *Click* is the natural logarithm of one plus total number of clicks on all negative comments. *Response* is the natural logarithm of one plus total number of responses to all negative comments. *Shame* is the number of negative comments shaming the insiders, including managers, board members, and large shareholders. *Log (1+Shame)* is the natural logarithm of one plus the number of negative comments shaming the insiders. *Shame with depth* is the number of negative comments shaming the insiders with in-depth analysis. *Shame without depth* is the number of negative comments shaming the insiders without in-depth analysis.

	Full sample(N=303)		Completed(N=262)		Withdrawn(N=41)		Difference	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Number of Criticisms	16.50	13.00	12.99	12.00	38.88	40.00	-25.89***	-28.00***
Log(1+ Number of Criticisms)	2.58	2.64	2.43	2.57	3.57	3.71	-1.14***	-1.14***
Proportion of Criticisms	0.34	0.31	0.29	0.29	0.72	0.74	-0.43***	-0.45***
Number of Criticisms before media	2.71	0.00	2.34	0.00	5.07	0.00	-2.73**	0.00
Number of Criticisms after media	13.78	11.00	10.65	9.00	33.81	34.00	-23.16***	-25.00***
Number of Criticisms before analyst	9.30	6.00	7.58	6.00	20.29	17.00	-12.71***	-11.00
Number of Criticisms after analyst	7.20	0.00	5.42	0.00	18.59	0.00	-13.17***	0.00*
Depth	1.35	1.33	1.30	1.28	1.66	1.67	-0.36***	-0.39***
Tone	1.83	1.82	1.75	1.75	2.34	2.33	-0.59***	-0.58***
Click	9.53	9.56	9.35	9.40	10.70	10.80	-1.35***	-1.40***
Response	3.76	3.78	3.57	3.66	4.95	4.74	-1.38***	-1.08***
Shame	1.35	0.00	0.79	0.00	4.93	3.00	-4.14***	-3.00***
Log(1+Shame)	0.53	0.00	0.39	0.00	1.45	1.39	-1.06***	-1.39***
Shame with depth	0.75	0.00	0.34	0.00	3.37	2.00	-3.03***	-2.00***

Shame without depth	0.60	0.00	0.45	0.00	1.56	1.00	-1.11***	-1.00***

Table 4

Comments of acquirer's small shareholders at the Internet stock message board

In this table, we classify negative comments (Panel A) and positive comments (Panel B) made by small shareholders on the Internet stock message board into nine categories based on their contents and compare the average number of negative comments under different reasons opposing (supporting) the acquisition between the withdrawn and completed attempts. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively.

Panel A: The average number of negative comments under different reasons opposing the acquisition attempt

	Withdrawn	Completed	Diff.(Withdrawn-Completed)	Total	Percentage
(1) The acquirer overpays for target	1.76	0.39	1.37***	2.14	7.25%
(2) The acquisition timing is bad	0.63	0.13	0.51***	0.76	2.57%
(3) Synergy does not exist	0.51	0.07	0.45***	0.58	1.95%
(4) Self-dealing	4.68	1.03	3.66***	5.71	19.34%
(5) The acquisition violates the regulations	0.22	0.11	0.11	0.33	1.12%
(6) Transaction negatively affects stock price	8.90	3.25	5.65***	12.15	41.17%
(7) The target is in poor financial status	2.51	0.59	1.92***	3.10	10.51%
(8) Other reasons	2.17	0.66	1.51***	2.84	9.60%
(9) No reason	1.12	0.79	0.34	1.91	6.46%
Total	22.51	7.01	15.5***	29.52	100.00%

Panel B: The average number of positive comments under different reasons supporting the acquisition attempt

	Withdrawn	Completed	Diff.(Withdrawn-Completed)	Total	Percentage
(1) The acquirer pays fairly for target	0.15	0.23	-0.09	0.38	1.54%
(2) The acquisition timing is good	0.39	0.92	-0.53***	1.31	5.31%
(3) Synergy does exist	0.66	1.63	-0.97***	2.29	9.26%
(4) No self-dealing	0.20	0.36	-0.17	0.56	2.26%
(5) The acquisition meets the regulations	0.39	0.78	-0.39*	1.17	4.75%
(6) Transaction positively affects stock price	3.07	6.46	-3.39***	9.54	38.65%
(7) The target is in good financial status	1.42	3.23	-1.81***	4.64	18.83%
(8) Other reasons	1.05	1.92	-0.87***	2.97	12.04%
(9) No reason	0.88	0.94	-0.06	1.82	7.37%
Total	8.20	16.47	-8.28***	24.67	100.00%

Table 5

The effect of small shareholders' criticisms on acquisition withdrawal

The table presents the results of probit regression analysis of acquisition withdrawal on small shareholders' criticisms on the Internet stock message board for *Log (1+ Number of Criticisms)* and other control variables. The sample consists of 303 acquisition attempts made by China's listed companies, with initial bids announced between January 1st, 2010 and December 31st, 2014. The dependent variable, *Withdrawal*, is a dummy variable that takes the value of one for withdrawn acquisition attempts and zero for completed attempts. For descriptions of all other variables, please see Table 2 and Table 3. All regressions control for year and industry fixed effects. The coefficients of the year and industry dummies are omitted for brevity. The *t*-values are reported in parentheses. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Withdrawal	Withdrawal	Withdrawal	Withdrawal	Withdrawal	Withdrawal
Log (1+ Number of Criticisms)			1.729***			2.839***
			(3.57)			(5.12)
Log (1+ Number of Criticisms before media)				0.559**		
				(2.37)		
Log (1+Number of Criticisms after media)				1.295***		
				(4.64)		
Log (1+Number of Criticisms before analyst)					1.139***	
					(4.05)	
Log (1+Number of Criticisms after analyst)					1.240***	
					(4.53)	
Social media attention						-1.885***
						(-4.07)
Media against		4.809***	4.204***	4.976***	5.171***	7.047***
		(6.53)	(4.00)	(4.24)	(4.82)	(5.08)
CAR	-5.617**	-1.968	3.951	1.970	0.739	13.321**
	(-2.27)	(-0.58)	(0.93)	(0.48)	(0.17)	(2.56)
Premium	0.031***	0.025**	0.002	0.012	-0.011	0.006
	(2.67)	(2.18)	(0.14)	(0.74)	(-0.60)	(0.31)
Stock dummy	-0.185	-0.582	-1.148***	-1.122**	-1.063**	-1.622***
	(-0.44)	(-1.39)	(-2.76)	(-2.48)	(-2.46)	(-3.08)
Termination fee dummy	-0.398**	-0.390	-0.368	-0.351	-0.801*	-0.068
	(-1.99)	(-1.13)	(-1.02)	(-1.04)	(-1.90)	(-0.15)
Compete dummy	0.580	0.988*	0.226	0.211	0.601	1.634**

	(1.12)	(1.77)	(0.43)	(0.37)	(1.06)	(2.03)
Relative deal value	3.808***	3.887***	3.583***	3.583***	4.335***	4.438***
	(6.00)	(3.70)	(3.07)	(2.94)	(3.61)	(3.36)
Toehold	1.618*	-1.956	-1.689	-3.177	-2.098	-1.730
	(1.87)	(-0.71)	(-0.61)	(-0.97)	(-0.73)	(-0.56)
Separation	-2.012	-1.888	-2.166	-2.000	-1.898	-5.088
	(-1.46)	(-1.03)	(-0.68)	(-0.63)	(-0.60)	(-1.54)
Institutional ownership	1.659***	1.928*	3.382***	3.530***	2.533*	2.094
	(3.58)	(1.78)	(2.84)	(2.64)	(1.90)	(1.30)
CEO duality	-0.100	-0.112	-0.525	-0.388	-0.487	-0.558
	(-0.32)	(-0.37)	(-1.36)	(-0.98)	(-1.19)	(-1.10)
Acquirer SOE dummy	-0.192	-0.034	-0.216	-0.244	-0.193	0.634
	(-0.57)	(-0.10)	(-0.58)	(-0.62)	(-0.43)	(0.91)
Related-party transactions	0.365*	0.123	-0.019	-0.063	-0.095	0.468
	(1.94)	(0.40)	(-0.05)	(-0.16)	(-0.24)	(0.87)
Government subsidies	2.168	3.914	20.440*	19.026*	18.941*	23.507**
	(0.21)	(0.51)	(1.89)	(1.66)	(1.83)	(2.13)
Law	0.209***	0.213**	0.184*	0.228*	0.264**	0.262**
	(4.97)	(2.23)	(1.75)	(1.90)	(2.12)	(2.19)
Acquirer size	-0.381**	-0.316*	-0.503**	-0.539**	-0.525**	0.217
	(-2.20)	(-1.95)	(-2.39)	(-2.47)	(-2.30)	(0.69)
Equity financing	0.335	0.109	0.887	0.650	0.532	0.879
	(0.33)	(0.18)	(1.17)	(0.86)	(0.67)	(1.07)
Cash flow volatility	0.372	1.337	-0.242	-0.048	1.112	1.123
	(0.27)	(0.71)	(-0.11)	(-0.02)	(0.48)	(0.35)
Target SOE dummy	-0.280	-0.370	-0.136	-0.371	-0.453	-1.446*
	(-0.66)	(-0.90)	(-0.29)	(-0.69)	(-0.88)	(-1.82)
Target ROA	-0.487	-0.299	-0.555	-0.594	-0.741	-1.940*
	(-0.92)	(-0.45)	(-0.69)	(-0.68)	(-0.83)	(-1.69)
Target leverage	1.076**	0.627	0.504	0.754	0.589	0.358
	(2.26)	(1.57)	(0.90)	(1.39)	(0.96)	(0.46)
Constant	4.578	1.979	2.489	4.641	3.383	-3.628
	(1.19)	(0.54)	(0.58)	(1.02)	(0.73)	(-0.58)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	303	303	303	303	303	303
Pseudo R-squared	0.358	0.517	0.657	0.644	0.658	0.757

Table 6

Instrumental variable estimations

The first and fourth columns report the results of pooled OLS regressions in which *Log (1+ Number of Criticisms)* and *Proportion of Criticisms* are key independent variables, respectively. The second and fifth columns report the results of the first stage regressions in which *Log (1+ Number of Criticisms)* and *Proportion of Criticisms* are dependent variables, respectively. The third and sixth columns report the results of the second stage analysis of acquisition withdrawal in which *Log (1+ Number of Criticisms)* and *Proportion of Criticisms* are predicted values from the first-stage regression in the second and fifth columns. The first instrumental variable, *Media expert dummy*, is a dummy variable that takes the value of one if the acquiring firm has at least one media expert on its board of directors prior to the proposed transaction, and zero otherwise. The second instrument is *Announcement weekend dummy*, which equals one when the initial announcement day is on a weekend or holiday, and zero otherwise. For descriptions of all other variables, please see Table 2 and Table 3. All regressions control for year and industry fixed effects. The coefficients of the year and industry dummies are not reported for brevity. The *t*-values are reported in parentheses. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	2SLS First-stage	2SLS Second-stage	OLS	2SLS First-stage	2SLS Second-stage
VARIABLES	Withdrawal	Log (1+ Number of Criticisms)	Withdrawal	Withdrawal	Proportion of Criticisms	Withdrawal
Log (1+ Number of Criticisms)	0.163***		0.095*			
	(5.75)		(1.68)			
Proportion of Criticisms				1.380***		0.683*
				(12.45)		(1.94)
Media expert dummy		-0.325***			-0.043**	
		(-3.60)			(-2.28)	
Announcement weekend dummy		-0.296***			-0.042*	
		(-2.91)			(-1.82)	
Media against	0.754***	1.234***	0.841***	0.374***	0.421***	0.671***
	(5.08)	(4.64)	(6.89)	(3.58)	(5.26)	(3.55)
CAR	0.310	-3.551***	0.016	0.575*	-0.597**	0.085
	(0.65)	(-3.18)	(0.02)	(1.68)	(-2.37)	(0.11)
Premium	0.004*	0.004	0.004**	0.003*	0.001	0.004**
	(1.82)	(0.95)	(2.02)	(1.88)	(1.08)	(2.21)
Stock dummy	-0.126**	0.365***	-0.102***	-0.093**	0.019	-0.080***
	(-2.35)	(3.92)	(-4.02)	(-2.46)	(0.74)	(-2.99)
Termination fee dummy	-0.074*	0.054	-0.071**	-0.054*	-0.008	-0.060***
	(-1.73)	(0.57)	(-2.42)	(-1.92)	(-0.36)	(-2.79)

Compete dummy	0.071	0.261	0.088*	0.008	0.077	0.061
	(0.92)	(1.41)	(1.87)	(0.16)	(1.49)	(1.30)
Relative deal value	0.333***	0.399***	0.360***	0.144**	0.184***	0.272***
	(3.85)	(3.43)	(4.67)	(2.23)	(4.39)	(4.45)
Toehold	0.057	-0.613	0.016	0.064	-0.077	0.011
	(0.14)	(-1.46)	(0.03)	(0.28)	(-0.42)	(0.03)
Separation	-0.075	-0.486	-0.114	-0.071	-0.059	-0.120
	(-0.43)	(-0.85)	(-0.79)	(-0.48)	(-0.50)	(-1.21)
Institutional ownership	0.175	-0.458	0.142	0.193*	-0.066	0.144
	(1.19)	(-1.26)	(0.85)	(1.96)	(-0.88)	(1.08)
CEO duality	-0.034	0.006	-0.033	-0.065**	0.023	-0.048
	(-0.91)	(0.06)	(-0.75)	(-2.27)	(1.20)	(-1.30)
Acquirer SOE dummy	-0.021	0.013	-0.023	-0.011	-0.005	-0.019
	(-0.58)	(0.13)	(-0.96)	(-0.40)	(-0.21)	(-0.95)
Related-party transactions	0.015	0.065	0.020	0.020	0.004	0.024
	(0.40)	(0.92)	(0.60)	(0.84)	(0.21)	(0.84)
Government subsidies	1.546	-1.595	1.431	0.744	0.394	1.010
	(0.96)	(-0.41)	(1.01)	(0.50)	(0.69)	(0.74)
Law	0.018*	0.018	0.019***	0.016**	0.003	0.019***
	(1.80)	(0.74)	(2.64)	(2.20)	(0.56)	(3.78)
Acquirer size	-0.027	0.101	-0.020	-0.009	-0.001	-0.010
	(-1.29)	(1.62)	(-1.12)	(-0.57)	(-0.06)	(-0.93)
Equity financing	0.037	0.028	0.039	-0.010	0.038	0.016
	(0.47)	(0.14)	(0.88)	(-0.17)	(0.90)	(0.39)
Cash flow volatility	0.059	1.270**	0.128	0.189	0.061	0.206
	(0.23)	(2.05)	(1.11)	(1.04)	(0.46)	(1.37)
Social media attention	-0.081***	0.166***	-0.069***	-0.026	-0.021*	-0.039**
	(-3.36)	(2.86)	(-2.96)	(-1.47)	(-1.74)	(-2.07)
Target SOE dummy	-0.022	-0.062	-0.024	-0.001	-0.024	-0.014
	(-0.62)	(-0.58)	(-0.60)	(-0.03)	(-1.01)	(-0.38)
Target ROA	-0.073	0.188	-0.058	-0.001	-0.031	-0.020
	(-0.86)	(0.77)	(-0.53)	(-0.01)	(-0.61)	(-0.24)
Target leverage	0.049	0.019	0.055	0.015	0.026	0.040
	(0.93)	(0.14)	(1.03)	(0.40)	(0.86)	(0.99)
Constant	0.845*	-1.591	0.717*	0.044	0.401	0.293*
	(1.83)	(-1.15)	(1.82)	(0.12)	(1.46)	(1.80)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	303	303	303	303	303	303
R-squared	0.543	0.449	0.528	0.742	0.482	0.670
Partial F-statistic		23.12 (p=0.006)			9.61 (p=0.03)	
Partial R-squared		0.089			0.035	
J-statistic from over-identifying restrictions test		0.566 (p=0.452)			0.953 (p=0.329)	

Table 7

The direction of causality flowing from criticisms to outcome

The table reports the results linear probability model regression on the action-outcome link between the opposing reasons raised by small shareholders and the reasons causing the withdrawal of an acquisition. The sample consists of 303 acquisition attempts made by China's listed companies, with initial bids announced between January 1st, 2010 and December 31st, 2014. We divide the opposing reasons raised by small shareholders and the reasons stated in the final announcement on why the acquisition is cancelled into seven issues: (1) the acquirer overpays for target; (2) the acquisition timing is bad; (3) synergy does not exist; (4) the presence of self-dealing; (5) the acquisition violates regulations; (6) the transaction negatively affects the stock price; and (7) the target is in poor financial status. The dependent variables are seven dummy variables, which equal one if the final announcement state that the transaction is withdrawn due to a certain opposing reason among the seven issues, and zero otherwise. The key independent variables are the seven measures that are calculated as the natural logarithm of one plus the number of negative comments on a certain reason among the seven issues. For descriptions of all other variables, please see Table 2. All regressions control for year and industry fixed effects. The coefficients of the year and industry dummies are omitted for brevity. The *t*-values are reported in parentheses. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively.

VARIABLES	(1) Withdrawal due to issue 1	(2) Withdrawal due to issue 2	(3) Withdrawal due to issue 3	(4) Withdrawal due to issue 4	(5) Withdrawal due to issue 5	(6) Withdrawal due to issue 6	(7) Withdrawal due to issue 7
Log (1+ Number of Criticisms on issue 1)	0.094***	-0.009	0.001	0.005	-0.004	0.030	-0.008
	(0.001)	(0.681)	(0.983)	(0.874)	(0.750)	(0.488)	(0.855)
Log (1+ Number of Criticisms on issue 2)	-0.017	0.175***	0.109**	-0.029	0.017	0.086	0.069
	(0.698)	(0.006)	(0.045)	(0.537)	(0.373)	(0.210)	(0.293)
Log (1+ Number of Criticisms on issue 3)	0.127*	-0.091*	0.217***	0.106	-0.048**	0.095	0.153
	(0.070)	(0.091)	(0.008)	(0.240)	(0.048)	(0.377)	(0.130)
Log (1+ Number of Criticisms on issue 4)	0.026	0.017	0.004	0.024	-0.006	0.036	0.061**
	(0.226)	(0.265)	(0.837)	(0.260)	(0.526)	(0.104)	(0.012)
Log (1+ Number of Criticisms on issue 5)	0.064	-0.073*	-0.062	0.062	0.048**	0.021	-0.053
	(0.229)	(0.061)	(0.128)	(0.301)	(0.037)	(0.705)	(0.489)
Log (1+ Number of Criticisms on issue 6)	0.017	0.042**	-0.001	0.072***	0.007	0.046**	0.071***
	(0.271)	(0.022)	(0.898)	(0.003)	(0.433)	(0.025)	(0.001)
Log (1+ Number of Criticisms on issue 7)	0.000	0.025	-0.008	0.012	-0.009	-0.022	0.083**
	(0.999)	(0.352)	(0.715)	(0.654)	(0.451)	(0.509)	(0.019)
Media against	0.476***	0.216**	0.039	0.345***	0.131***	0.546***	0.434***
	(0.001)	(0.039)	(0.530)	(0.009)	(0.001)	(0.002)	(0.007)

CAR	-0.353	-0.050	0.096	-0.609*	0.110	-0.235	0.528
	(0.338)	(0.840)	(0.636)	(0.083)	(0.479)	(0.589)	(0.160)
Premium	-0.001	0.004*	-0.001	-0.001	-0.000	0.001	0.002
	(0.528)	(0.051)	(0.559)	(0.392)	(0.817)	(0.559)	(0.244)
Stock dummy	-0.058	-0.052*	-0.059*	-0.034	0.003	-0.041	-0.005
	(0.179)	(0.089)	(0.092)	(0.462)	(0.855)	(0.470)	(0.923)
Termination fee dummy	-0.036	-0.001	0.019	-0.045	-0.033**	-0.016	-0.046
	(0.168)	(0.961)	(0.436)	(0.145)	(0.011)	(0.668)	(0.161)
Compete dummy	-0.030	0.111**	0.034	0.022	0.084***	-0.036	0.021
	(0.373)	(0.042)	(0.102)	(0.741)	(0.002)	(0.307)	(0.684)
Relative deal value	-0.044	0.133	0.039	0.245*	0.189***	0.114	0.077
	(0.509)	(0.171)	(0.457)	(0.076)	(0.000)	(0.548)	(0.702)
Toehold	-0.151	0.022	0.017	-0.174	-0.000	0.174	0.015
	(0.390)	(0.898)	(0.789)	(0.298)	(0.996)	(0.624)	(0.963)
Separation	0.009	-0.201	0.261*	0.202	0.040	0.037	-0.032
	(0.944)	(0.145)	(0.076)	(0.159)	(0.602)	(0.789)	(0.828)
Institutional ownership	-0.027	-0.089	-0.010	-0.127	-0.012	0.090	0.292**
	(0.724)	(0.390)	(0.898)	(0.149)	(0.802)	(0.525)	(0.018)
CEO duality	-0.012	0.020	-0.031	0.014	0.021	0.001	-0.034
	(0.599)	(0.489)	(0.178)	(0.566)	(0.117)	(0.968)	(0.294)
Acquirer SOE dummy	0.022	-0.003	-0.015	0.043	0.051***	0.012	-0.005
	(0.441)	(0.902)	(0.355)	(0.118)	(0.001)	(0.714)	(0.876)
Related-party transactions	-0.016	0.124***	-0.002	0.077*	0.033**	-0.062	0.023
	(0.689)	(0.002)	(0.913)	(0.061)	(0.025)	(0.181)	(0.598)
Government subsidies	1.900	-1.064*	0.641	1.857	0.021	1.873	1.335
	(0.401)	(0.100)	(0.411)	(0.387)	(0.965)	(0.424)	(0.494)
Law	0.011*	-0.001	-0.003	0.003	0.008**	0.008	0.001
	(0.074)	(0.740)	(0.622)	(0.712)	(0.027)	(0.320)	(0.930)
Acquirer size	0.000	0.006	0.007	-0.008	0.004	0.002	-0.046**
	(0.993)	(0.748)	(0.568)	(0.609)	(0.652)	(0.904)	(0.032)
Equity financing	0.005	-0.009	-0.008	0.007	0.007	0.067	0.011
	(0.915)	(0.846)	(0.847)	(0.892)	(0.768)	(0.319)	(0.852)
Cash flow volatility	-0.145	0.181	-0.009	-0.221	-0.095	0.048	0.211
	(0.320)	(0.286)	(0.952)	(0.146)	(0.247)	(0.805)	(0.248)
Social media attention	-0.013	-0.026	-0.019	-0.008	-0.008	-0.015	-0.004
	(0.292)	(0.214)	(0.233)	(0.510)	(0.307)	(0.320)	(0.843)
Target SOE dummy	-0.022	-0.040	-0.018	0.002	-0.037**	0.005	-0.027
	(0.464)	(0.110)	(0.311)	(0.957)	(0.019)	(0.890)	(0.471)
Target ROA	-0.019	-0.065	-0.010	-0.022	-0.023	0.040	-0.086
	(0.629)	(0.239)	(0.825)	(0.655)	(0.493)	(0.482)	(0.216)
Target leverage	0.062**	-0.040	-0.019	0.080**	-0.017	0.024	0.069

	(0.048)	(0.310)	(0.512)	(0.027)	(0.367)	(0.586)	(0.135)
Constant	0.369	0.334	-0.048	0.119	-0.120	-0.054	1.137**
	(0.345)	(0.406)	(0.865)	(0.746)	(0.522)	(0.911)	(0.014)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	303	303	303	303	303	303	303
R-squared	0.509	0.474	0.279	0.491	0.363	0.409	0.512

Table 8

Hazard estimates of probability of acquisition withdrawal

The table uses a Cox proportional hazard model to examine whether criticisms by small shareholders influences the timing of reversal of acquisition decision. The sample consists of 303 acquisition attempts made by China's listed companies, with initial bids announced between January 1st, 2010 and December 31st, 2014. The dependent variable, *Duration*, is the number of days between the acquisition announcement date and withdrawal announcement date, if there is an acquisition withdrawal within 180 calendar days (or 360 calendar days). As for the cases without acquisition withdrawal, the *duration* is 180 calendar days (or 360 calendar days) following the announcement of proposed transaction. The key independent variable is the cumulative number of negative comments made by small shareholders on the Internet stock message board during the period from the initial announcement date to the withdrawal announcement date or the end of 180- (360-) day period. The set of control variables are the same as Model 1. The reported coefficients are the estimated hazard ratio of the corresponding regressors. The *t*-values are reported in parentheses. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)
VARIABLES	Withdrawn within first 6 Months		Withdrawn within first 12 Months	
Cumulative number of negative comments	1.040***	1.067***	1.050***	1.067**
	(5.84)	(4.21)	(5.93)	(2.21)
Control variables	No	Yes	No	Yes
Number of observations	303	303	303	303
Number of failures	25	25	39	39
Chi^2	34.08	321.64	35.17	252.12
Prob > Chi^2	0.00	0.00	0.00	0.00

Table 9

Natural experiment of the emergence of Internet stock message board

The table reports the results from a natural experiment using a probit model. The sample consists of 480 acquisition attempts made by China's listed companies, with initial bids announced between January 1st, 2000 and December 31st, 2014. The dependent variable is a dummy variable that takes the value of one for withdrawn acquisition attempts and zero for completed attempts. The key independent variable, *After*, is a dummy variable that equals one if the announcement date of the acquisition is after the emergence of the Internet stock message board. For descriptions of all other variables, please see Table 2. All regressions control for industry fixed effects. The coefficients of the industry dummies are omitted for brevity. The *t*-values are reported in parentheses. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively.

	(1)	(2)
VARIABLES	Withdrawal	Withdrawal
After	0.719***	14.923***
	(2.71)	(6.95)
Media against		4.753***
		(6.32)
CAR		-2.942
		(-1.32)
Premium		0.009
		(1.06)
Stock dummy		-0.108
		(-0.34)
Termination fee dummy		-0.248
		(-1.34)
Compete dummy		0.699*
		(1.77)
Relative deal value		1.995***
		(4.23)
Toehold		-2.173***
		(-3.58)
Separation		-0.727
		(-0.51)
Institutional ownership		0.959*
		(1.81)
CEO duality		0.085
		(0.20)

Acquirer SOE dummy		-0.061
		(-0.17)
Related-party transactions		0.244*
		(1.67)
Government subsidies		2.261
		(0.32)
Law		0.201***
		(5.10)
Acquirer size		-0.196
		(-1.40)
Equity financing		0.482
		(0.51)
Cash flow volatility		0.595
		(0.42)
Target SOE dummy		-0.233
		(-0.97)
Target ROA		0.168
		(0.26)
Target leverage		-0.032
		(-0.06)
Constant	-1.867***	-8.442
	(-7.41)	(-0.47)
Year fixed effects	No	Yes
Industry fixed effects	No	Yes
Observations	480	480
Pseudo R-squared	0.0283	0.505

Table 10

Why the criticisms from small shareholders matter: The information intermediary channel

This table presents the results of testing whether the information intermediary role is one of the channels behind the effect of small shareholders' criticisms. The sample consists of 303 acquisition attempts made by China's listed companies, with initial bids announced between January 1st, 2010 and December 31st, 2014. The dependent variable is a dummy variable that takes the value of one for withdrawn acquisition attempts and zero for completed attempts. For descriptions of all other variables, please see Table 2 and Table 3. All regressions control for year and industry fixed effects. The coefficients of the year and industry dummies are omitted for brevity. The *t*-values are reported in parentheses. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)
VARIABLES	Withdrawal	Withdrawal	Withdrawal	Withdrawal
Log (1+ Number of Criticisms)×Depth	2.677***			
	(3.59)			
Log (1+ Number of Criticisms)×Tone		6.013***		
		(3.13)		
Log (1+ Number of Criticisms)×Click			0.315**	
			(2.37)	
Log (1+ Number of Criticisms)×Response				0.842***
				(3.61)
Log (1+ Number of Criticisms)	-1.019	-10.161***	-0.399	-0.752
	(-1.20)	(-3.06)	(-0.22)	(-1.03)
Depth	-4.845***			
	(-3.86)			
Tone		-1.953		
		(-1.45)		
Click			-0.659***	
			(-2.71)	
Response				-1.248**
				(-2.07)
Media against	9.129***	18.480***	7.547***	9.109***
	(4.66)	(2.58)	(4.96)	(5.52)
CAR	11.136*	19.073**	17.465***	15.847***
	(1.79)	(2.03)	(3.37)	(3.06)
Premium	0.014	0.127*	0.006	0.016
	(0.63)	(1.83)	(0.30)	(0.93)

Stock dummy	-2.183***	0.130	-1.625***	-2.760***
	(-2.62)	(0.12)	(-3.05)	(-3.73)
Termination fee dummy	-0.505	0.261	0.034	-0.551
	(-1.21)	(0.28)	(0.07)	(-1.39)
Compete dummy	2.059**	-2.413**	1.818**	2.082**
	(2.37)	(-2.47)	(2.22)	(2.01)
Relative deal value	5.920***	0.151	4.669***	5.298***
	(3.69)	(0.19)	(3.35)	(3.80)
Toehold	-2.138	-19.822**	-2.661	1.514
	(-0.60)	(-2.14)	(-0.84)	(0.41)
Separation	-7.293*	8.009**	-4.465	-4.579
	(-1.67)	(2.05)	(-1.39)	(-1.34)
Institutional ownership	3.616**	9.635**	2.516	3.114**
	(2.13)	(2.56)	(1.58)	(2.19)
CEO duality	-0.398	-0.355	-0.366	0.149
	(-0.73)	(-0.43)	(-0.80)	(0.28)
Acquirer SOE dummy	0.477	-0.400	0.670	1.332
	(0.73)	(-0.45)	(0.88)	(1.61)
Related-party transactions	-0.038	-0.769	0.444	0.262
	(-0.07)	(-0.46)	(0.74)	(0.34)
Government subsidies	37.177**	82.367*	26.783**	61.568***
	(2.32)	(1.72)	(2.19)	(3.51)
Law	0.300**	0.847***	0.259**	0.315**
	(2.20)	(3.68)	(2.19)	(2.44)
Acquirer size	-0.034	-1.502**	0.183	0.345
	(-0.11)	(-2.20)	(0.57)	(0.84)
Equity financing	0.503	2.027	0.825	1.203
	(0.57)	(1.33)	(0.98)	(1.25)
Cash flow volatility	-2.518	-8.659**	2.174	-0.060
	(-0.76)	(-2.27)	(0.73)	(-0.02)
Social media attention	-1.943***	-	-1.850***	-2.301***
	(-4.31)	-	(-4.00)	(-3.98)
Target SOE dummy	-2.270***	1.091	-1.460*	-3.623***
	(-2.87)	(0.96)	(-1.74)	(-3.09)
Target ROA	-1.062	2.004	-2.179**	-2.510*
	(-0.74)	(1.00)	(-1.97)	(-1.93)
Target leverage	0.426	-0.406	0.300	0.492
	(0.38)	(-0.38)	(0.36)	(0.61)
Constant	7.440	19.239	3.944	0.206
	(1.06)	(1.27)	(0.65)	(0.03)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Observations	303	303	303	303
Pseudo R-squared	0.808	0.867	0.771	0.804

Table 11

Why the criticisms from small shareholders matter: The shaming-managers channel

This table presents the results of testing whether shaming managers is one of the channels behind the effect of small shareholders' criticisms. The sample consists of 303 acquisition attempts made by China's listed companies, with initial bids announced between January 1st, 2010 and December 31st, 2014. The dependent variable is a dummy variable that takes the value of one for withdrawn acquisition attempts and zero for completed attempts. The independent variable, *Wealth*, is the number of Hurun China's 1,000 richest individuals in the province where the company's headquarter is located. *Blood donation* is the milliliters of blood donated voluntarily (without compensation) in a province divided by its population in 2000. *Market-orientation index* measures the process of market and institutional transition of each province in mainland China. For descriptions of all other variables, please see Table 2 and Table 3. All regressions control for year and industry fixed effects. The coefficients of the year and industry dummies are omitted for brevity. The *t*-values are reported in parentheses. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Withdrawal	Withdrawal	Withdrawal	Withdrawal	Withdrawal	Withdrawal
Log (1+Shame)	1.287***		0.740		0.718	
	(4.16)		(1.41)		(1.57)	
Log(1+ Shame with depth)		1.290***		0.925		1.021*
		(3.65)		(1.61)		(1.72)
Log(1+ Shame without depth)		0.536				
		(1.56)				
Log (1+Shame)×Wealth			0.011**			
			(2.46)			
Log(1+ Shame with depth)×Wealth				0.009**		
				(2.06)		
Log (1+Shame)×Blood donation					0.894***	
					(2.83)	
Log(1+ Shame with depth)×Blood donation						0.706**
						(2.07)
Wealth			-0.017**	-0.009		
			(-2.19)	(-1.62)		
Blood donation					-0.451	-0.328
					(-1.48)	(-1.22)
Media against	5.028***	4.781***	6.254***	5.721***	6.694***	6.139***
	(4.80)	(3.94)	(5.67)	(5.20)	(5.72)	(5.23)
CAR	1.489	0.825	-0.247	-2.370	-1.649	-3.675

	(0.40)	(0.22)	(-0.06)	(-0.59)	(-0.44)	(-0.92)
Premium	0.031**	0.032**	0.029*	0.024	0.035**	0.027*
	(2.09)	(2.28)	(1.79)	(1.48)	(2.05)	(1.72)
Stock dummy	-0.611	-0.497	-0.657	-0.599	-0.719	-0.637
	(-1.49)	(-1.16)	(-1.45)	(-1.29)	(-1.52)	(-1.30)
Termination fee dummy	-0.090	-0.022	-0.037	-0.062	-0.021	0.027
	(-0.27)	(-0.07)	(-0.10)	(-0.16)	(-0.05)	(0.07)
Compete dummy	1.331*	1.335**	1.418**	1.642**	1.026	1.331*
	(1.93)	(1.98)	(1.99)	(2.23)	(1.49)	(1.75)
Relative deal value	2.224***	1.939***	2.869***	2.798***	2.417***	2.504**
	(2.77)	(2.98)	(2.62)	(2.60)	(2.86)	(2.48)
Toehold	-4.081	-3.902	-5.291*	-4.962	-6.006***	-5.551*
	(-1.43)	(-1.25)	(-1.77)	(-1.64)	(-2.66)	(-1.95)
Separation	-0.778	-0.184	-2.249	-1.484	-1.691	-0.717
	(-0.34)	(-0.08)	(-0.65)	(-0.56)	(-0.66)	(-0.31)
Institutional ownership	2.020*	1.822*	2.194*	2.043*	3.528***	2.930***
	(1.84)	(1.73)	(1.83)	(1.81)	(2.83)	(2.58)
CEO duality	0.000	0.046	0.195	0.444	-0.001	0.405
	(0.00)	(0.15)	(0.49)	(1.20)	(-0.00)	(1.06)
Acquirer SOE dummy	0.131	0.170	0.061	0.255	0.469	0.605
	(0.36)	(0.48)	(0.16)	(0.62)	(1.11)	(1.42)
Related-party transactions	0.313	-0.022	0.396	0.663*	0.821**	0.706*
	(0.84)	(-0.07)	(0.96)	(1.87)	(2.05)	(1.83)
Government subsidies	11.960	6.249	2.918	0.482	16.201	11.331
	(1.16)	(0.65)	(0.26)	(0.04)	(1.44)	(0.93)
Law	0.255**	0.250**	0.565***	0.419**	0.850***	0.601***
	(2.28)	(2.24)	(3.09)	(2.55)	(3.90)	(3.76)
Acquirer size	0.111	0.069	0.015	0.002	-0.084	-0.070
	(0.64)	(0.42)	(0.07)	(0.01)	(-0.37)	(-0.31)
Equity financing	0.139	0.336	-0.253	0.173	0.170	0.365
	(0.23)	(0.60)	(-0.34)	(0.27)	(0.23)	(0.60)
Cash flow volatility	0.514	1.267	0.350	-1.255	-1.613	-2.159
	(0.23)	(0.57)	(0.14)	(-0.51)	(-0.63)	(-0.88)
Social media attention	-0.862***	-0.859***	-0.955***	-1.010***	-1.125***	-1.089***
	(-3.71)	(-3.76)	(-3.42)	(-3.67)	(-4.43)	(-4.00)
Target SOE dummy	-0.307	-0.342	-0.502	-0.700*	-0.684	-0.845*
	(-0.68)	(-0.77)	(-1.15)	(-1.65)	(-1.39)	(-1.82)
Target ROA	-0.331	-0.339	-0.101	-0.304	-0.846	-0.849
	(-0.51)	(-0.52)	(-0.11)	(-0.39)	(-0.80)	(-1.06)
Target leverage	0.274	0.221	0.301	0.352	0.247	0.289
	(0.54)	(0.47)	(0.53)	(0.66)	(0.37)	(0.50)
Market-orientation index			-0.142	-0.155	-0.540***	-0.394***
			(-0.78)	(-0.91)	(-3.83)	(-3.73)
Constant	-2.123	0.646	0.105	2.002	4.985	4.934

	(-0.59)	(0.19)	(0.03)	(0.46)	(1.11)	(1.06)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	303	303	303	303	299	299
Pseudo R-squared	0.654	0.642	0.694	0.672	0.696	0.675

Table 12

Why the criticisms from small shareholders matter: The government regulation channel

This table presents the results of testing whether government regulation is one of the channels behind the effect of small shareholders' criticisms. The sample consists of 303 acquisition attempts made by China's listed companies, with initial bids announced between January 1st, 2010 and December 31st, 2014. The dependent variable, *Withdrawal*, is a dummy variable that takes the value of one for withdrawn acquisition attempts and zero for completed attempts. The independent variable, *CSRC approval dummy*, equals one if an acquisition requiring CSRC approval. *Punishment risk dummy*, equals one if the probability that an acquiring firm being punished by CRSC in the acquisition announcement year is higher than sample median, and zero otherwise. *Regulatory efficiency 1 (2)* are two provincial NERI indices regarding the administrative efficiency of the local government to proxy for the regulatory efficiency of the CSRC's local branches. *Regulatory efficiency 1 (2) dummy* equals one if the *Regulatory efficiency 1(2)* of a province is higher than sample median, and zero otherwise. For descriptions of all other variables, please see Table 2. All regressions control for year and industry fixed effects. The coefficients of the year and industry dummies are omitted for brevity. The *t*-values are reported in parentheses. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively.

	(1)	(2)	(3)	(4)
VARIABLES	Withdrawal	Withdrawal	Withdrawal	Withdrawal
Log (1+ Number of Criticisms)×CSRC approval dummy	9.728***			
	(2.73)			
Log (1+ Number of Criticisms)×Punishment risk dummy		3.075**		
		(2.46)		
Log (1+ Number of Criticisms)×Regulatory efficiency dummy 1			1.678*	
			(1.67)	
Log (1+ Number of Criticisms)×Regulatory efficiency dummy 2				4.646**
				(2.45)
Log (1+ Number of Criticisms)	2.411***	2.585***	2.037***	3.009***
	(2.76)	(8.00)	(4.82)	(5.48)
CSRC approval dummy	-27.081**			
	(-2.53)			
Punishment risk dummy		-10.047***		
		(-2.78)		
Regulatory efficiency 1 dummy			-3.888	
			(-1.21)	

Regulatory efficiency 2 dummy				-15.371**
				(-2.52)
Media against	12.344***	8.847***	7.813***	8.133***
	(4.10)	(7.32)	(6.01)	(4.70)
CAR	53.720***	20.052***	14.253**	15.179***
	(3.54)	(8.78)	(2.40)	(2.87)
Premium	0.161***	0.024*	0.015	0.002
	(3.64)	(1.91)	(0.71)	(0.13)
Stock dummy	-5.344***	-1.547***	-1.691***	-2.019***
	(-4.55)	(-4.01)	(-3.03)	(-3.49)
Termination fee dummy	-2.020***	0.104	0.468	-0.605
	(-2.95)	(0.29)	(0.77)	(-1.07)
Compete dummy	8.831***	2.197**	2.258***	2.312*
	(3.13)	(2.13)	(2.71)	(1.76)
Relative deal value	12.233***	6.821***	5.190***	5.501***
	(3.28)	(7.17)	(3.27)	(3.28)
Toehold	6.899	-4.210***	-2.015	-3.223
	(1.55)	(-4.37)	(-0.65)	(-1.10)
Separation	7.664	-2.749	-0.908	-4.621
	(1.27)	(-1.15)	(-0.28)	(-1.31)
Institutional ownership	4.235***	4.124***	2.911**	2.434
	(3.03)	(4.44)	(1.98)	(1.44)
CEO duality	-4.022***	-0.522	-0.549	-0.953*
	(-2.71)	(-1.18)	(-1.19)	(-1.78)
Acquirer SOE dummy	0.250	0.842	0.040	0.807
	(0.25)	(1.45)	(0.06)	(0.87)
Related-party transactions	-1.015	-0.090	-0.282	0.115
	(-0.59)	(-0.31)	(-0.63)	(0.24)
Government subsidies	128.932**	27.675**	10.370	21.188
	(2.50)	(2.41)	(0.99)	(1.53)
Law	0.744***	0.350***	0.105	0.415***
	(3.10)	(4.28)	(0.87)	(3.01)
Acquirer size	0.533	-0.162	0.163	0.173
	(1.24)	(-1.27)	(0.67)	(0.56)
Equity financing	1.546	1.297	0.919	1.018
	(1.56)	(1.03)	(1.22)	(1.27)
Cash flow volatility	22.319***	1.488	4.154	2.008
	(3.29)	(0.64)	(1.55)	(0.65)
Social media attention	-4.097***	-2.194***	-1.799***	-2.446***
	(-3.09)	(-5.46)	(-4.04)	(-4.85)
Target SOE dummy	-4.171***	-0.879**	-1.301*	-1.654
	(-3.44)	(-2.22)	(-1.79)	(-1.41)
Target ROA	-8.295***	-3.912***	-1.924*	-1.975*
	(-2.89)	(-5.23)	(-1.76)	(-1.76)

Target leverage	0.934	0.692***	-0.352	0.669
	(1.11)	(2.75)	(-0.54)	(0.82)
Constant	0.461	7.351***	1.409	1.481
	(0.07)	(3.14)	(0.27)	(0.21)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Observations	303	303	303	303
Pseudo R-squared	0.855	0.775	0.778	0.789

"Social Media and Corporate Governance: Acquisitions under Negative Reactions from Small Investors"

Internet Appendix

Table A1. Correlation analysis

The table presents pairwise correlations of variables in this paper. The sample consists of 303 acquisition attempts made by China's listed companies, with initial bids announced between January 1st, 2010 and December 31st, 2014. For a description of all other variables, please see Table 2 and Table 3. ***, **, and * indicate the coefficient is statistically different from zero at the 1-, 5-, and 10-percent level, respectively.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
1.Log (1+ Number of Criticisms)	1																																		
2.Proportion of Criticisms	0.764***	1																																	
3.Log (1+ Number of Criticisms before media)	0.051	0.033	1																																
4.Log (1+Number of Criticisms after media)	0.692***	0.532***	-0.609***	1																															
5.Log (1+Number of Criticisms before analyst)	0.184***	0.207***	0.194***	0	1																														
6.Log (1+Number of Criticisms after analyst)	0.410***	0.251***	-0.135**	0.402***	-0.796***	1																													
7.Depth	0.403***	0.429***	-0.078	0.350***	0.069	0.176***	1																												
8.Tone	0.515***	0.615***	0.041	0.365***	0.154***	0.148***	0.409***	1																											
9.Click	0.832***	0.633***	0.007	0.595***	0.133**	0.360***	0.465***	0.492***	1																										
10.Response	0.763***	0.601***	0.133**	0.475***	0.221***	0.245***	0.324***	0.453***	0.721***	1																									
11.Log (1+Shame)	0.547***	0.610***	0.057	0.378***	0.189***	0.125**	0.372***	0.580***	0.46***7	0.536***	1																								
12.Log(1+ Shame with depth)	0.525***	0.613***	0.023	0.381***	0.159***	0.140**	0.473***	0.525***	0.463***	0.474***	0.873***	1																							
13.Log(1+ Shame without depth)	0.390***	0.431***	0.096*	0.241***	0.157***	0.07	0.114**	0.461***	0.320***	0.444***	0.831***	0.502***	1																						
14.CAR	-0.308***	-0.292***	0.149***	-0.287***	-0.019	-0.150***	-0.119**	-0.269***	-0.321***	-0.259***	-0.274***	-0.230***	-0.23***8	1																					
15.Media against	0.397***	0.537***	0.035	0.302***	0.138**	0.087	0.267***	0.381***	0.307***	0.317***	0.433***	0.500***	0.247***	-0.192***	1																				
16.Premium	0.141**	0.134**	-0.085	0.137**	-0.029	0.129**	0.121**	0.054	0.143**	0.062	0.033	0.076	-0.057	-0.092	0.067	1																			
17.Stock dummy	0.332***	0.281***	-0.119**	0.328***	0.053	0.128**	0.224***	0.154***	0.288***	0.264***	0.218***	0.216***	0.120**	-0.216***	0.299***	-0.014	1																		
18.Termination fee dummy	0.145**	0.122**	-0.088	0.168***	-0.035	0.144**	0.062	0.101*	0.167***	0.154***	0.077	0.088	0.037	-0.169***	0.105*	-0.007	0.044	1																	
19.Compete dummy	0.026	-0.004	-0.044	0.063	0.092	-0.069	0.005	-0.004	0.005	-0.019	0.03	0.028	0.036	0.03	-0.074	-0.027	-0.098*	0.025	1																

20.Relative deal value	0.268***	0.383***	0.052	0.155***	0.170***	-0.011	0.232***	0.289***	0.217***	0.269***	0.323***	0.334***	0.240***	-0.171***	0.297***	0.026	0.315***	0.188***	-0.048	1															
21.Toehold	0.046	0.005	0.014	0.034	0.03	-0.01	0.005	-0.007	0.106*	0.092	0.065	0.075	0.052	0.01	0.114**	-0.019	0.086	0.093	-0.038	-0.017	1														
22.Separation	-0.051	-0.055	-0.146**	0.057	-0.011	-0.029	-0.018	-0.111*	-0.037	0.023	-0.012	-0.041	0.03	-0.051	-0.042	0.055	0.032	-0.054	-0.037	-0.009	-0.018	1													
23.Institutional ownership	-0.04	-0.058	-0.077	0.025	-0.343***	0.302***	-0.04	-0.088	-0.004	-0.066	-0.134**	-0.097*	-0.118**	-0.039	-0.042	0.011	0.074	0.026	-0.004	-0.132**	-0.002	-0.08	1												
24.CEO duality	0.022	0.128**	-0.033	0.034	-0.016	0.019	0.051	-0.007	0.006	-0.027	0.012	-0.081	0.063	-0.008	0.041	0.047	0.048	-0.089	-0.085	0.035	-0.078	-0.011	0.007	1											
25.Acquirer SOE dummy	-0.074	-0.170***	0.096*	-0.09	0.128**	-0.151***	-0.04	-0.012	-0.097*	0.023	-0.031	-0.032	0.024	0.105*	-0.033	-0.139**	-0.102*	0.062	0.135**	-0.059	0.078	-0.149***	-0.043	-0.275***	1										
26.Related-party transactions	0.107*	0.043	0.203***	-0.04	0.163***	-0.093	0.001	-0.022	0.08	0.124**	0.048	0.048	0.068	-0.058	0.178***	-0.09	0.043	0.023	0.01	0.105*	0.005	0.104*	-0.125**	-0.071	0.137**	1									
27.Government subsidies	0.053	0.115**	-0.083	0.081	0.008	0.018	0.144**	0.135**	0.091	0.175***	0.063	0.089	-0.05	-0.149***	0.042	0.093	0.066	0.138**	-0.013	0.068	-0.015	-0.029	0.021	0.002	-0.056	-0.071	1								
28.Law	0.024	0.033	-0.042	0.031	0.013	0.002	0.036	0.042	0.004	-0.007	-0.017	0.036	-0.06	0.003	-0.002	-0.025	0.007	0.019	0.054	-0.065	-0.024	-0.012	0.023	0.087	-0.089	-0.038	-0.013	1							
29.Acquirer size	0.006	-0.218***	0.049	-0.01	-0.233***	0.216***	-0.033	-0.111*	0.039	-0.004	-0.116**	-0.113**	-0.043	0.103*	-0.158***	0.002	-0.039	-0.004	0.103*	-0.153***	0.024	-0.072	0.413***	-0.218***	0.342***	0.019	-0.121**	-0.07	1						
30.Equity financing	0.019	0.107*	-0.045	0.04	-0.228***	0.228***	-0.067	-0.017	-0.014	-0.042	-0.034	-0.083	-0.032	0.027	-0.003	0.082	-0.024	-0.026	0.019	-0.105*	-0.036	-0.176***	0.218***	0.275***	-0.331***	-0.268***	0.029	0.073	-0.141**	1					
31.Cash flow volatility	0.094	0.033	-0.076	0.124**	-0.148***	0.179***	0.061	0.068	0.167***	0.016	0.038	0.057	-0.033	-0.069	-0.06	0.03	-0.042	0.027	-0.047	-0.06	0.00	0.018	0.042	0.048	-0.164***	-0.041	0.033	0.051	-0.039	0.187***	1				
32.Social media attention	0.197***	-0.126**	0.136**	0.055	0.068	0.042	-0.025	0.021	0.157***	0.160***	0.093	0.065	0.100*	0.057	-0.032	0.097*	-0.002	0.036	0.171***	-0.033	0.098*	-0.002	-0.063	-0.115**	0.229***	0.137**	-0.111*	-0.04	0.413***	-0.182***	-0.036	1			
33.Target SOE dummy	-0.048	-0.114**	-0.043	0.009	0.016	-0.04	0.049	-0.056	-0.052	0.053	-0.033	-0.02	0.007	0.132**	-0.018	-0.184***	-0.038	0.079	0.230***	0.074	0.117**	-0.002	-0.066	-0.201***	0.549***	0.194***	-0.068	-0.033	0.220***	-0.244***	-0.162***	0.103*	1		
34.Target ROA	0.054	0.001	-0.130**	0.119**	-0.141**	0.156***	0.009	-0.053	0.071	0.003	-0.011	-0.004	-0.055	-0.064	-0.035	0.098*	0.108*	-0.071	0.012	0.00	0.017	-0.006	0.116**	-0.017	-0.119**	-0.076	0.074	0.003	0.051	0.105*	0.016	-0.04	-0.106*	1	
35.Target leverage	0.083	0.109*	-0.023	0.07	0.039	0.01	0.032	0.079	0.033	0.116**	0.159***	0.183***	0.111*	-0.004	0.163***	0.049	0.038	0.095*	0.045	0.078	-0.039	0.052	0.06	-0.141**	0.145**	0.115**	-0.021	0.067	0.114**	-0.085	-0.052	0.021	0.056	-0.135**	1

Table A2. The direction of causality flowing from criticisms to outcome - alternative measures of independent variable

The table reports the results linear probability model regression on the action-outcome link between the opposing reasons raised by small shareholders and the reasons causing the withdrawal of an acquisition. The sample consists of 303 acquisition attempts made by China's listed companies, with initial bids announced between January 1st, 2010 and December 31st, 2014. We divide the opposing reasons raised by small shareholders and the reasons stated in the final announcement on why the acquisition is cancelled into seven issues: (1) the acquirer overpays for target; (2) the acquisition timing is bad; (3) synergy does not exist; (4) the presence of self-dealing; (5) the acquisition violates regulations; (6) the transaction negatively affects the stock price; and (7) the target is in poor financial status. The dependent variables are seven dummy variables, which equal one if the final announcement state that transaction is withdrawn due to a certain opposing reason among the seven issues, and zero otherwise. The key independent variables are the seven measures which are calculated as the fraction of the number of negative comment on a certain reason among the seven issues to all acquisition-related comments. For descriptions of all other variables, please see Table 2. All regressions control for year and industry fixed effects. The coefficients of the year and industry dummies are omitted for brevity. The *t*-values are reported in parentheses. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively.

VARIABLES	(1) Withdrawal due to issue 1	(2) Withdrawal due to issue 2	(3) Withdrawal due to issue 3	(4) Withdrawal due to issue 4	(5) Withdrawal due to issue 5	(6) Withdrawal due to issue 6	(7) Withdrawal due to issue 7
Proportion of Criticisms on issue 1	0.949**	-0.162	0.235	-0.202	-0.047	0.392	-0.128
	(0.013)	(0.491)	(0.501)	(0.663)	(0.677)	(0.423)	(0.760)
Proportion of Criticisms on issue 2	-0.126	2.337**	1.710**	-0.699	0.374	1.757**	1.339*
	(0.829)	(0.024)	(0.045)	(0.258)	(0.334)	(0.044)	(0.098)
Proportion of Criticisms on issue 3	1.865	-1.467	3.939***	1.676	-0.832**	1.503	3.383**
	(0.116)	(0.146)	(0.007)	(0.289)	(0.042)	(0.430)	(0.028)
Proportion of Criticisms on issue 4	0.857***	0.144	0.045	0.483	-0.058	0.614**	0.955***
	(0.002)	(0.305)	(0.823)	(0.110)	(0.392)	(0.048)	(0.000)
Proportion of Criticisms on issue 5	0.998	-0.822	-0.605	0.818	0.680	0.532	-0.107
	(0.161)	(0.177)	(0.255)	(0.275)	(0.256)	(0.447)	(0.888)
Proportion of Criticisms on issue 6	0.133	0.387***	0.071	0.582***	0.116	0.455***	0.619***
	(0.259)	(0.004)	(0.332)	(0.003)	(0.174)	(0.008)	(0.000)
Proportion of Criticisms on issue 7	-0.180	0.254	0.031	0.307	-0.023	-0.368	0.873**
	(0.537)	(0.332)	(0.921)	(0.409)	(0.856)	(0.373)	(0.011)
Media against	0.382***	0.191*	-0.015	0.285**	0.115*	0.449***	0.279*
	(0.005)	(0.066)	(0.825)	(0.028)	(0.076)	(0.006)	(0.054)
CAR	-0.286	-0.075	0.093	-0.635*	0.127	-0.188	0.526
	(0.391)	(0.759)	(0.653)	(0.062)	(0.246)	(0.644)	(0.110)
Premium	-0.000	0.004*	-0.001	-0.001	-0.000	0.001	0.001
	(0.702)	(0.069)	(0.394)	(0.275)	(0.543)	(0.665)	(0.435)
Stock dummy	-0.053	-0.048	-0.062*	-0.026	0.001	-0.038	0.006
	(0.192)	(0.106)	(0.061)	(0.562)	(0.964)	(0.483)	(0.896)
Termination fee dummy	-0.031	-0.002	0.022	-0.038	-0.033**	-0.013	-0.041
	(0.182)	(0.934)	(0.368)	(0.196)	(0.024)	(0.719)	(0.174)

Compete dummy	-0.039	0.107*	0.024	0.006	0.075	-0.052	0.009
	(0.263)	(0.056)	(0.217)	(0.928)	(0.194)	(0.151)	(0.855)
Relative deal value	-0.062	0.119	0.015	0.219	0.183	0.087	0.023
	(0.327)	(0.231)	(0.705)	(0.112)	(0.101)	(0.639)	(0.910)
Toehold	-0.167	0.015	0.022	-0.220	-0.001	0.177	0.004
	(0.313)	(0.924)	(0.756)	(0.169)	(0.983)	(0.584)	(0.989)
Separation	-0.019	-0.167	0.252*	0.196	0.048	0.027	-0.063
	(0.870)	(0.207)	(0.089)	(0.185)	(0.424)	(0.842)	(0.671)
Institutional ownership	0.014	-0.117	-0.018	-0.119	-0.018	0.088	0.288**
	(0.853)	(0.256)	(0.794)	(0.168)	(0.606)	(0.502)	(0.011)
CEO duality	-0.011	0.012	-0.035	0.006	0.018	-0.007	-0.049
	(0.617)	(0.666)	(0.135)	(0.811)	(0.115)	(0.834)	(0.104)
Acquirer SOE dummy	0.025	-0.007	-0.013	0.038	0.052**	0.016	-0.014
	(0.361)	(0.753)	(0.392)	(0.125)	(0.025)	(0.590)	(0.625)
Related-party transactions	-0.015	0.117***	-0.006	0.078*	0.029	-0.075	0.020
	(0.707)	(0.003)	(0.790)	(0.054)	(0.303)	(0.104)	(0.633)
Government subsidies	1.419	-1.111	0.477	1.401	0.079	1.838	0.567
	(0.524)	(0.106)	(0.574)	(0.474)	(0.802)	(0.449)	(0.713)
Law	0.011**	-0.001	-0.002	0.003	0.008	0.008	0.001
	(0.049)	(0.806)	(0.735)	(0.697)	(0.135)	(0.292)	(0.910)
Acquirer size	0.009	0.016	0.010	0.007	0.004	0.012	-0.025
	(0.530)	(0.338)	(0.376)	(0.657)	(0.556)	(0.539)	(0.182)
Equity financing	-0.004	-0.029	-0.014	-0.008	0.005	0.049	-0.015
	(0.929)	(0.541)	(0.730)	(0.862)	(0.740)	(0.435)	(0.770)
Cash flow volatility	-0.102	0.192	-0.047	-0.139	-0.091	0.069	0.253
	(0.470)	(0.242)	(0.732)	(0.303)	(0.154)	(0.697)	(0.122)
Social media attention	-0.011	-0.016	-0.016	0.007	-0.004	-0.004	0.014
	(0.389)	(0.456)	(0.304)	(0.594)	(0.603)	(0.815)	(0.469)
Target SOE dummy	-0.010	-0.043*	-0.014	0.005	-0.036*	0.015	-0.016
	(0.731)	(0.076)	(0.380)	(0.862)	(0.094)	(0.675)	(0.622)
Target ROA	-0.008	-0.078	-0.021	-0.015	-0.027	0.026	-0.080
	(0.844)	(0.178)	(0.643)	(0.809)	(0.193)	(0.654)	(0.214)
Target leverage	0.027	-0.048	-0.027	0.064**	-0.014	0.000	0.037
	(0.313)	(0.227)	(0.333)	(0.038)	(0.243)	(0.996)	(0.390)
Constant	0.140	0.043	-0.148	-0.315	-0.167	-0.369	0.558
	(0.684)	(0.910)	(0.556)	(0.378)	(0.238)	(0.423)	(0.165)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	303	303	303	303	303	303	303
R-squared	0.565	0.491	0.330	0.534	0.379	0.457	0.602

Table A3. The influence of internet censorship

The table reports the results of linear probability model regression on the influence of internet censorship. The sample consists of 303 acquisition attempts made by China's listed companies, with initial bids announced between January 1st, 2010 and December 31st, 2014. The dependent variable is a dummy variable that takes the value of one for withdrawn acquisition attempts and zero for completed attempts. The independent variables, *Censorship dummy*, equals one if the acquisition announcement date is after June 22nd, 2013 (CSRC announces in the day that it begins to strengthen the regulation of the social media), and zero otherwise. *Acquirer SOE dummy* is a dummy variable that equals one if the acquiring firm is a State-owned Enterprise, and zero otherwise. For descriptions of all other variables, please see Table 2 and Table 3. All regressions control for year and industry fixed effects. The coefficients of the year and industry dummies are omitted for brevity. The *t*-values are reported in parentheses. ***, **, and * indicate significance at 1%, 5%, and 10%, respectively.

	(1)	(2)
VARIABLES	Withdrawal	Withdrawal
Log (1+ Number of Criticisms)	0.154***	0.168***
	(0.000)	(0.000)
Log (1+ Number of Criticisms)×Censorship dummy	0.023	
	(0.636)	
Censorship dummy	-0.117	
	(0.297)	
Log (1+ Number of Criticisms) ×Acquirer SOE dummy		-0.012
		(0.816)
Acquirer SOE dummy	-0.021	0.010
	(0.571)	(0.938)
Media against	0.761***	0.755***
	(0.000)	(0.000)
CAR	0.318	0.316
	(0.506)	(0.508)
Premium	0.004*	0.004*
	(0.075)	(0.079)
Stock dummy	-0.126**	-0.129**
	(0.022)	(0.018)
Termination fee dummy	-0.076*	-0.075*
	(0.081)	(0.085)
Compete dummy	0.076	0.074
	(0.329)	(0.337)
Relative deal value	0.332***	0.331***
	(0.000)	(0.000)
Toehold	0.046	0.058
	(0.907)	(0.884)
Separation	-0.088	-0.086
	(0.626)	(0.630)
Institutional ownership	0.177	0.173
	(0.240)	(0.251)

CEO duality	-0.034	-0.035
	(0.375)	(0.354)
Related-party transactions	0.018	0.016
	(0.646)	(0.668)
Government subsidies	1.658	1.610
	(0.317)	(0.334)
Law	0.019*	0.018*
	(0.067)	(0.078)
Acquirer size	-0.025	-0.028
	(0.253)	(0.204)
Equity financing	0.034	0.036
	(0.677)	(0.654)
Cash flow volatility	0.062	0.055
	(0.814)	(0.832)
Social media attention	-0.079***	-0.081***
	(0.002)	(0.001)
Target SOE dummy	-0.027	-0.022
	(0.463)	(0.543)
Target ROA	-0.070	-0.073
	(0.413)	(0.400)
Target leverage	0.042	0.044
	(0.449)	(0.434)
Constant	0.820	0.855*
	(0.104)	(0.088)
Year fixed effects	Yes	Yes
Industry fixed effects	Yes	Yes
Observations	303	303
R-squared	0.546	0.543