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Vote Avoidance and Shareholder Voting in Mergers and Acquisitions

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October 2017

Kai Li
University of British Columbia and CAFR

Tingting Liu
Creighton University

Juan (Julie) Wu
University of Nebraska - Lincoln

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Abstract

We examine whether, how, and why acquirer shareholder voting matters. We show that acquirers with more severe agency problems and overconfident CEOs are more likely to bypass shareholder voting. To avoid a shareholder vote, acquirers increase equity issuance and cut payout to raise the portion of cash in mixed-payment deals. Acquirers who bypass voting have lower announcement returns and make higher offers than those who do not. Employing a regression discontinuity design, we show a positive causal effect of shareholder voting concentrated among acquirers with higher institutional ownership. We conclude that shareholder voting mitigates agency problems in mergers and acquisitions.

Keywords: vote avoidance, shareholder voting, mergers and acquisitions, acquirer announcement returns, regression discontinuity design, agency problems

JEL Classifications: G32, G34, G38

Kai Li
Professor of Finance
University of British Columbia, Sauder School of Business
2053 Main Mall
Vancouver, BC V6T 1Z2, Canada
phone: +1 604 822 8353
e-mail: kai.li@sauder.ubc.ca

Tingting Liu*
Assistant Professor
Creighton University, Heider College of Business
2500 California Plaza
Omaha, NE 68178, United States
phone: +1 402 280 4806
e-mail: tingtingliu@creighton.edu

Juan (Julie) Wu
Assistant Professor of Finance
University of Nebraska - Lincoln, College of Business Administration
14th Street
Lincoln, NE 68588, United States
phone: +1 402 472 5046
e-mail: juliewu@unl.edu

*Corresponding Author

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Kai Li
Sauder School of Business
University of British Columbia
2053 Main Mall, Vancouver, BC V6T 1Z2
kai.li@sauder.ubc.ca

Tingting Liu
Heider College of Business
Creighton University
2500 California Plaza, Omaha, NE 68178
tingtingliu@creighton.edu

Juan (Julie) Wu
College of Business Administration
University of Nebraska - Lincoln
Lincoln, NE 68588
juliewu@unl.edu

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Vote Avoidance and Shareholder Voting in Mergers and Acquisitions

Abstract

We examine whether, how, and why acquirer shareholder voting matters. We show that acquirers with more severe agency problems and overconfident CEOs are more likely to bypass shareholder voting. To avoid a shareholder vote, acquirers increase equity issuance and cut payout to raise the portion of cash in mixed-payment deals. Acquirers who bypass voting have lower announcement returns and make higher offers than those who do not. Employing a regression discontinuity design, we show a positive causal effect of shareholder voting concentrated among acquirers with higher institutional ownership. We conclude that shareholder voting mitigates agency problems in mergers and acquisitions.

Keywords: vote avoidance; shareholder voting; mergers and acquisitions; acquirer announcement returns; regression discontinuity design; agency problems

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I. Introduction

The separation of ownership and control in modern corporations relies on two pillars—the specialization of management and a set of mechanisms to control agency problems (Fama and Jensen 1983). Management, given its expertise and insider knowledge of the firm and industry, is granted considerable discretion in making various corporate decisions. However, agency problems arise whenever decision rights are delegated. This paper examines why acquirer management might avoid shareholder voting, how it does so, and whether acquirer shareholder voting affects mergers and acquisitions (M&As) deal outcomes.

Our identification strategy relies on listing rules of the NYSE, AMEX, and NASDAQ that require shareholder voting in M&As when an acquirer *intends* to issue more than 20% of new shares to finance a deal.[1] This setting allows us to examine whether acquirer management uses methods of payment to avoid a shareholder vote (i.e., vote avoidance) and if it does, why and how it does so, and to establish a direct causal effect of acquirer shareholder voting in M&As.

We proceed with two complementary approaches. First, we identify a sample of mixed-payment deals in which, had acquirer management not used cash as part of the payment, these deals would have required shareholder voting. We examine *why* and *how* acquirer management in essence games the structure of a deal to avoid a shareholder vote and investigate the tendency for overpayment in M&A deals without acquirer shareholder voting. Second, among all-stock

[1] The 20% rule for listed firms was first introduced in 1955 by the NYSE, in 1968 by the AMEX, and in 1985 by the NASDAQ, with the intention of protecting investors (Michael, 1992; Karmel, 2001). See Michael (1992) for details on the history of corporate governance listing standards in the U.S. See Appendix IA1 in the Internet Appendix, the New York Stock Exchange (NYSE) Listed Company Manual, Section 312.00 Shareholder Approval Policy; the American Stock Exchange (AMEX) Company Guide, Section 712 Acquisitions; and the NASDAQ Manual: Marketplace Rules, Section 4350 Qualitative Listing Requirements for NASDAQ National Market and NASDAQ SmallCap Market Issuers Except for Limited Partnerships. See Appendix IA2 for an example of S-4 where the requirement of acquirer shareholder voting is specified.

deals in which acquirer management has no discretion (i.e., cannot use cash) to bypass shareholder voting, we examine the causal impact of shareholder voting on deal quality as measured by acquirer price reaction. Acquirer management's inability to *precisely* manipulate the number of shares to be issued allows us to use a regression discontinuity design (RDD). Specifically, we compare acquirer price reaction to all-stock deals in which the percent of shares to be issued is either above or below the 20% threshold by a small margin; as such, the requirement of shareholder voting is locally randomized to help establish a causal effect.[2] Our two approaches complement each other and provide both indirect (via vote avoidance) and direct evidence on the disciplinary role of acquirer shareholder voting in M&As.

Using a large hand-collected sample of U.S. acquisition deals that involve stock payment over the period 1995-2015, we first present evidence that in mixed-payment deals, acquirers with more severe agency problems and overconfident CEOs are more likely to substitute stock with cash to avoid triggering the 20% rule and hence shareholder voting; and that this maneuver is less likely to take place when acquirer institutional ownership is high. We find that to avoid a shareholder vote, acquirers increase equity issuance, cut payout, and cumulate cash holdings in the year prior to the merger announcement to raise the share of cash in mixed-payment deals. We further show that deals bypassing shareholder voting are 3.0% lower in acquirer announcement returns than those requiring shareholder voting, and that acquirers bypassing shareholder voting make higher offers than their counterparts. Given that the average acquirer has a market capitalization of $3.2 billion in the sample, a 3.0% difference in stock returns around the merger announcement corresponds to a value reduction of over $96 million, an economically significant amount to acquirer shareholders.

[2] As we show in Section V, the validity assumption for the RDD is met in the all-stock sample.

In all-stock deals where acquirer management has little latitude to influence the percent of shares to be issued to bypass shareholder voting, deals that require shareholder voting are 4.3% higher in acquirer announcement returns than those that do not. Given that the average acquirer has a market capitalization of $3.3 billion in the sample, a 4.3% difference in stock returns around the merger announcement corresponds to a value increase of over $140 million for acquirer shareholders. We further show that this positive effect is concentrated among acquirers with high institutional ownership, and that the requirement of shareholder voting leads to less overpayment and better post-merger operating performance. These results suggest that the prospect of shareholder voting serves as a commitment device that makes acquirer management do better deals than in cases without shareholder voting.

Although the RDD analysis establishes a direct causal effect of shareholder voting on deal quality, a potential concern is that acquirer management can choose the method of payment (i.e., all-stock payment or not) that might correlate with deal quality. To address this concern, we take advantage of an accounting rule change over our sample period that makes the choice of all-stock payment largely exogenous to deal quality. Using subsamples of all-stock deals in which the choice of payment methods is primarily driven by accounting considerations, we find a similar positive effect of acquirer shareholder voting on deal quality.

Our paper contributes to the literature in a number of dimensions. First, using U.S. data, our study provides new evidence on whether, how, and why acquirer shareholder voting matters in M&As. Although the U.S. represents the largest M&A market in the world, our understanding of the effect of shareholder voting on this important corporate decision is quite limited. Hsieh and Wang (2008) and Kamar (2011) study U.S. shareholder voting rights and deal outcomes, but reach different conclusions due to endogeneity challenges. Focusing on the U.K. where

shareholder voting is *mandatory* for large deals regardless of methods of payment, Becht, Polo, and Rossi (2016) find that shareholder voting leads to higher acquirer announcement returns and lower offer premiums. In contrast, in the U.S. acquirer management can adjust methods of payment to bypass shareholder voting. Acquirer management's opportunity to structure deal financing in a way that eliminates the need for a shareholder vote (a source of endogeneity in previous studies) is used in our paper as an opportunity to demonstrate the benefits of shareholder voting. This richer institutional setting allows us to study both vote avoidance and shareholder voting and test hypotheses regarding the benefits of shareholder voting in M&As.[3]

Second, our paper contributes to the finance and accounting literature examining the use of shareholder voting to engage in activism. Grundfest (1993) argues that a substantial withheld vote by shareholders in director elections motivates directors to take immediate action to avoid further embarrassment. Research on U.S. firms by Burch, Morgan, and Wolf (2004), Cai, Garner, and Walkling (2009), Fischer, Gramlich, Miller, and White (2009), Cuňat, Gine, and Guadalupe (2012), and on firms outside the U.S. by Iliev, Lins, Miller, and Roth (2015), and papers surveyed in Yermack (2010) show that although shareholders' votes are overwhelmingly cast in favor of management's recommendations and thus are not mechanically pivotal for outcomes, meaningful dissenting vote percentages are followed by subsequent changes in board composition, management, executive compensation, or other policies. In the context of director elections where shareholders' votes are purely advisory but are often used by shareholders to express dissent, Aggarwal, Dahiya, and Prabhala (2017) find that directors facing dissent are more likely to depart boards, especially if they are not lead directors or chairs of important

[3] In a similar vein, Bach and Metzger (2016a) find evidence of management manipulating the voting process. They estimate that 11% of closely-contested shareholder proposals that were eventually rejected would have passed had management not been able to manipulate voting results.

committees. Directors facing dissent who do not leave are in effect demoted to less prominent positions through loss of membership on key board committees. They conclude that there are human capital and reputational consequences to receiving opposition in director elections even though dissent rarely crosses the majority threshold. Collectively, these studies show that the voting process is an effective means of shareholder activism because it disciplines managers.[4] Our paper contributes to this strand of the literature by demonstrating that even anticipation of a shareholder vote leads to better deal-making.[5]

Finally, our paper contributes to the large literature on the monitoring role of institutional investors in corporate policies (see, for example, theoretical work by Shleifer and Vishny 1986; Maug 1998; empirical evidence from Hartzell and Starks 2003; Chen, Harford, and Li 2007; Iliev, Lins, Miller, and Roth 2015; and surveys by Gillan and Starks 2000; Yermack 2010). Complementary to these studies, our study shows that institutional investors not only reduce acquirer management's propensity to bypass shareholder voting, but also enhance the positive effect of shareholder voting in M&As. Our paper thus provides new insight into how institutional investors help create firm value—their scrutiny leads to portfolio firms being less likely to bypass shareholder voting and/or making value-enhancing deals—and reinforces the important connection between the sophistication of shareholders and major corporate decisions (Holderness 2017).

Our findings in this paper have important implications for securities regulators, stock exchanges, and the investing public. In November 2015, the NASDAQ requested comments on

[4] Iliev, Lins, Miller, and Roth (2015) go even farther, "Without the credible threat of dissent voting, other mechanisms used by shareholders to engage in activism (e.g., registering complaints privately or publicly, selling shares) would be less consequential."

[5] In a similar vein, Fos, Li, and Tsoutsoura (2017) find that the closer directors of a board are to their next elections, the higher CEO turnover-performance sensitivity is. They conclude that director elections have important implications for corporate governance.

the 20% rule, specifically regarding whether the rule was too restrictive and whether the percentage should be higher (i.e., 25%). Institutional investors such as the California Public Employees' Retirement System—the largest public pension fund in the U.S.—were in firm support of the *status quo* and argued that any weakening of the NASDAQ's 20% rule is inconsistent with its goal of preserving and strengthening the quality of its market to protect investors.[6] Our findings suggest that this listing requirement should be expanded for all large deals instead of being conditional on stock issuance, because otherwise acquirer management could manipulate methods of payment to bypass shareholder voting while shareholder voting is shown to lead to value-enhancing corporate decisions.

II. Conceptual Framework and Hypothesis Development

Agency problems arise whenever decision rights are delegated. Our first hypothesis, the vote avoidance hypothesis, focuses on why acquirer management may want to avoid a shareholder vote.[7]

The corporate finance literature offers several potential explanations for why management may promote value-destroying acquisitions and hence dislike shareholder interference in their decision making. The most common of these are: (i) the separation of ownership and control in modern corporations results in conflicts of interest between managers and shareholders, particularly in the case of acquisitions (Jensen 1986; Morck, Shleifer, and Vishny 1990; Lang, Stulz, and Walkling 1991); and (ii) managerial overconfidence or hubris could lead to overpayment (Roll 1986; Malmendier and Tate 2008).

[6] https://www.calpers.ca.gov/docs/2016-02-15-shareholder-approval-rules.pdf.
[7] We thank an anonymous referee for suggesting these explanations.

Managers know what they are doing and deliberately take excessive risks, particularly when they have access to cash (Jensen 1986; Lang, Stulz, and Walkling 1991; Harford 1999), or they can issue overpriced stock (Shleifer and Vishny 2003; Rhodes-Kropf and Viswanathan 2004; Dong, Hirshleifer, Richardson, and Teoh 2006; Fu, Lin, and Officer 2013). A number of studies on CEO compensation and incentives in M&As further show that executive compensation schemes often motivate CEOs to engage in deal-making activities, to the detriment of their shareholders. Grinstein and Hribar (2004) show that CEOs receive M&A bonuses that are unrelated to deal performance. Harford and Li (2007) find that acquirer CEOs are significantly better off due to new stock and option grants following acquisitions even for poorly performing firms. Fu, Lin, and Officer (2013) show that CEO compensation, not shareholder value creation, appears to be the main motive behind acquisitions by overvalued acquirers. Prior work including Jensen (1986), Lang, Stulz, and Walkling (1991), Harford (1999), Chen, Harford, and Li (2007), Harford and Li (2007), and Fu, Lin, and Officer (2013) thus concludes that agency conflicts are more severe in firms with high cash holdings and/or poor investment opportunities, and that different governance mechanisms such as high institutional ownership and strong boards can mitigate these agency conflicts. The above discussion suggests that one of the most common reasons behind value-destroying acquisitions is agency conflicts (i.e., manager private benefits).

Roll (1986) is the first to link takeover contests to the winner's curse, suggesting that CEO hubris could lead to overpayment in M&As. Malmendier and Tate (2008) further argue that overconfident CEOs overestimate their ability to generate returns. As a result, they overpay for target companies and pursue value-destroying mergers. Consistent with the above observations, Levi, Li, and Zhang (2014) show that female directors who are not overly confident are less

likely to overestimate merger gains and as such, firms with female directors are less likely to make acquisitions and if they do, pay lower offer premiums, offsetting (mostly male) CEO empire building. These studies suggest that another common reason behind value-destroying acquisitions is managerial overconfidence.

The above discussions lead to our first hypothesis:

The Vote Avoidance Hypothesis: Bypassing shareholder voting in M&As is value decreasing.

Our second hypothesis, the shareholder voting hypothesis, focuses on why shareholder intervention takes place. When decision rights are delegated, shareholder intervention can mitigate agency problems (see, for example, Shleifer and Vishny 1986; Admati, Pfleiderer, and Zechner 1994; Huddart 1993; Maug 1998; Noe 2002). Because all shareholders benefit from the actions of an intervening shareholder without incurring the costs, only large shareholders have sufficient incentives to intervene. Empirical evidence from Gillan and Starks (2000), Hartzell and Starks (2003), Parrino, Sias, and Starks (2003), Chen, Harford, and Li (2007), and Iliev, Lins, Miller, and Roth (2015) largely supports the proposition that intervention by large shareholders is value enhancing.

Moreover, deals that require shareholder voting, as per exchange listing rules, are relatively large and important to acquirers, and hence garner greater attention from acquirer shareholders. These significant deals, which have the potential to dilute ownership and/or destroy value, motivate acquirer shareholders to closely scrutinize bids and be more involved in the decision-making process.

Finally, the growing importance of institutional ownership and shareholder proxy advisory firms (Yermack 2010; Malenko and Shen 2016) suggests that shareholders have the knowledge and resources to intervene informatively.

The above discussions lead to our second hypothesis:

The Shareholder Voting Hypothesis: Shareholder voting in M&As is value enhancing.

In our empirical investigation, we use some common proxies for agency costs and CEO overconfidence to provide cross-sectional evidence on these potential explanations for vote avoidance. We also consider under what conditions acquirer management would want a shareholder vote.

III. Sample Formation and Overview

A. Sample formation

We start with all announced M&A transactions from the Thomson One Banker SDC database for the period from January 1, 1995 to December 31, 2015. We impose the following filters to obtain our sample: 1) the deal is classified as "Acquisition of Assets (AA)", "Merger (M)," or "Acquisition of Majority Interest (AM)" by the data provider; 2) the acquirer is a U.S. public firm listed on the NYSE, AMEX, or NASDAQ; 3) the acquirer holds less than 50% of the shares of the target firm before the deal announcement and seeks to own 100% of the shares of the target firm through the deal; 4) the target is a public firm, a private firm, or a subsidiary; 5) the deal value is at least $1 million (in 1995 dollar value); 6) basic financial and stock return information is available for the acquirer; 7) the relative size of the deal (i.e., the ratio of transaction value over book value of acquirer total assets) is at least 1%; 8) the deal involves stock payment; and 9) deals by limited partnerships are excluded, as the listing requirement does not apply to them. These steps yield a sample of 5,512 stock deals. Given that the shareholder voting requirement is based on "the percent of new shares a firm *intends* to issue" (see footnote 1 for listing rules), we hand-collect such information and determine whether acquirer shareholder

voting is required via searches of regulatory filings on the Securities and Exchange Commission's (SEC) EDGAR website.[8] Table 1 lists the steps taken to form the final sample of 5,223 stock deals involving public, private, and subsidiary targets. In the interests of brevity, we henceforth refer to both private and subsidiary targets as simply private targets.

B. Sample overview

Table 2 presents the temporal distribution of our sample. In Panel A, we separate the sample by whether shareholder voting is required and report the proportion of stock deals that require acquirer shareholder voting. We see a large merger wave around the time of the Internet bubble, and over our sample period the proportion of stock deals that require acquirer shareholder voting ranges from 21% in 2007 to 38% in 2009. In Panel B, we further separate the sample by whether a given deal is an all-stock deal. We see a trend of declining all-stock deals after 2000, which coincides with the elimination of pooling of interests accounting for M&As (whose prerequisite is that at least 90% of the consideration is in stock). Within the all-stock sample, about a third of the sample requires acquirer shareholder voting; within the mixed-payment sample, less than a fifth of the sample requires acquirer shareholder voting.

Table 3 Panel A presents the summary statistics. All variables are defined in Appendix A. All continuous variables are winsorized at the 1st and 99th percentiles. We note that the acquirer three-day abnormal announcement return, CAR3, has a mean of 1.0% and a median of 0.2%. Panel B compares firm and deal characteristics between deals requiring shareholder voting and those that do not. Acquirers that require shareholder voting on average have lower CAR3, lower institutional ownership, less severe agency problems (only the median), lower market

[8] Appendix IA3 in the Internet Appendix provides a detailed description of our data collection process.

capitalization, lower M/B, lower cash holdings, and lower prior year returns, while they face greater deal risk, are larger (in terms of book assets), and have higher leverage than those that do not. Deals that require shareholder voting are larger (in terms of both deal value and relative size), and are less likely to be a diversifying deal, a tender offer, or to involve buying a private target than those that do not. Overall, these summary statistics show systematic differences between the two subsamples separated by whether shareholder voting is required or not.

Panel C presents the correlation matrix for our sample of stock deals. None of the correlations warrants any concern for multicollinearity.

IV. Vote Avoidance in M&As

In the U.S., shareholder voting is required only when acquirers intend to issue more than 20% of shares outstanding to fund a deal. This institutional feature provides acquirer management an opportunity to bypass shareholder voting by using cash as part of the payment for target firms (i.e., mixed-payment).

A. Evidence of vote avoidance in M&As

To explore whether acquirer management uses cash as part of the payment to bypass shareholder voting, we first plot the density function of the percent of shares to be issued for two samples: the mixed-payment sample and the all-stock sample in Figure 1. Visual inspection of the plots suggests clear evidence of acquirer management using cash to bypass shareholder voting in the mixed-payment sample: There is a distinct discontinuity of the density function at the 20% threshold in the mixed-payment sample due to a cluster of deals with the percent of shares to be issued right below the 20% threshold (and hence allowing acquirer management to

avoid shareholder voting). In contrast, we do not observe such drastic discontinuity in the all-stock sample. We also formally test the null hypothesis of no discontinuity at the 20% threshold (McCrary, 2008). The test strongly rejects the null (Z-stat = -7.4, p-value < 0.01) in the sample of mixed-payment deals, while it fails to reject the null (Z-stat = -0.09; p-value = 0.47) in the sample of all-stock deals. It is worth noting that the difference in test results is likely not due to a power issue, as the two samples are similar in size.

In summary, Figure 1 and the McCrary tests present evidence that in some mixed-payment deals, acquirer management does try to bypass shareholder voting by issuing shares just below the 20% threshold, while in the all-stock sample, acquirer management has only imperfect control of the percent of shares to be issued that will stay just below the 20% threshold. In the jargon of the RDD, if acquirer management cannot *precisely* manipulate the running variable (the percent of shares to be issued in the all-stock sample), then the variation in treatment (the requirement of shareholder voting) near the 20% threshold will be *randomized* as though from a *randomized* experiment (Lee and Lemieux 2010). To test the vote avoidance hypothesis, and investigate acquirer management's tendency for overpayment in M&A deals without a shareholder vote, we next examine *why* and *how* acquirer management in essence games the structure of a deal to avoid shareholder voting.

B. Determinants of vote avoidance

We now examine *why* acquirer management may want to avoid a shareholder vote. Our analysis of vote avoidance uses a combined sample of deals in which acquirer management manipulating the deal structure is most likely to manifest itself: mixed-payment deals issuing less than 20% of equity with the ratio of deal value (excluding assumed liabilities) to acquirer market

capitalization between 20% and 35% (i.e., *Vote avoidance* = 1, and shareholder voting is not required)[9], and deals where vote avoidance is most likely to be absent: all-stock deals issuing more than 20% of equity (i.e., *Vote avoidance* = 0, and shareholder voting is required). We employ a linear probability regression where the dependent variable is an indicator variable, *Vote avoidance*, as defined above.

The key independent variables are motivated by our two hypotheses, including acquirer institutional ownership, agency problems, and CEO overconfidence. Institutional ownership is measured at the most recent quarter-end prior to the merger announcement. Our proxy for agency problems, following Jensen (1986), Lang, Stulz, and Walkling (1991), and Harford (1999), is operating cash flow normalized by total assets when acquirer M/B is not in the top quartile, and zero otherwise. Our measure for CEO overconfidence follows Malmendier and Tate (2008) and Campbell et al. (2011). We first compute option moneyness using information on exercisable options from ExecuComp. The indicator variable, *CEO overconfidence*, takes the value of one if a CEO holds her stock options that are 100% or more in the money, and zero otherwise.[10] Table 4 presents the results.

Given its expertise and sophistication, acquirer management might have the ability to bypass shareholder voting under a wide spectrum of possibilities. As a result, we run the linear probability regression using different subsamples with the percent of shares to be issued centered at the 20% threshold. For example, in column (1), the regression uses a sample of deals with the

[9] Had these deals been paid completely in stock, they would have required shareholder voting because the hypothetical percent of shares to be issued would have been above 20%; acquirer management uses partial cash payments on these deals to potentially bypass shareholder voting.

[10] Since ExecuComp only covers S&P 1500 firms, to address the missing data problem for our sample of acquirers (only about one-third of our sample firms are part of S&P 1500), we also include an indicator variable, *CEO overconfidence missing*, that takes the value of one if the information required to classify overconfident CEOs is missing, and zero otherwise.

percent of shares to be issued falling within the band of [14%, 26%]. Columns (2), (3), and (4) expand to be within the bands of [12%, 28%], [10%, 30%], and [5%, 35%], respectively. As the band becomes wider, deals with share issuance farther away from the threshold are included in which acquirer management is more likely to use cash for reasons other than bypassing shareholder voting.[11] This inclusion likely introduces bias to our analysis. To balance the tradeoff between bias and estimation efficiency, in column (5) we employ the weighted least squares (WLS) regression where the weight is the inverse of an observation's distance to the 20% threshold so that more (less) weight is given to observations closer to (farther away from) the threshold. All specifications include industry and year fixed effects to control for potential industry factors and regulatory changes during our sample period.

Panel A shows that across all columns, institutional ownership is negatively associated with, whereas agency problems and CEO overconfidence are positively associated with, acquirer management's propensity to bypass shareholder voting. In columns (1)-(4), the coefficients are more significant and larger in magnitude in subsamples with the percent of shares to be issued falling within the narrower bands in which vote avoidance is more likely the reason behind using mixed payment. In terms of economic significance, one standard deviation increase in institutional ownership (29.2%) is associated with a decrease in the likelihood of vote avoidance in the range of 8% - 11%; one standard deviation increase in agency problems (.097) is

[11] Some examples would be illustrative. Consider a case of a mixed-payment deal in which the acquirer issued 19% of equity with the ratio of deal value to acquirer market capitalization at 0.25. Had the acquirer not used cash, it would have issued 25% of equity. In this case, the acquirer paid 6% of its market capitalization with cash to bring down the percent of shares to be issued to 19% (just below the 20% threshold, to bypass shareholder voting). Consider another case of a mixed-payment deal in which the acquirer issued only 5% of equity with the ratio of deal value to acquirer market capitalization at 0.25. Again, had the acquirer not used cash, it would have issued 25% of equity. In this second case, the acquirer paid 20% of its market capitalization with cash to bring down the percent of shares to be issued to 5% (far below the 20% threshold). While both cases would be in our sample, one could reasonably argue that bypassing shareholder voting is more likely to be the primary motive in the first case than in the second case behind the mixed payment (of cash and stock).

associated with an increase in the likelihood of vote avoidance in the range of 6-10%; and having an overconfident CEO is associated with an increase in the likelihood of vote avoidance in the range of 10-20%. In column (5), we show that institutional ownership is negatively and significantly, whereas agency problems and overconfident CEOs are positively and significantly, associated with vote avoidance after giving more weights to deals whose percent of shares to be issued are closer to the threshold. The evidence suggests that both agency problems and managerial overconfidence are important reasons behind value-destroying acquisitions, and that shareholders who monitor acquirer management, such as institutional investors, help rein in acquirer management's tendency to manipulate the deal structure to bypass a shareholder vote.[12]

We further find that deal risk is positively and significantly associated with acquirer management's propensity to bypass shareholder voting, suggesting that if management is worried about interim deal risk, it would try to avoid a vote to hasten deal completion.[13] We also show that leverage is positively and significantly associated with acquirer management's propensity to bypass shareholder voting, suggesting that debt proceeds enable acquirer management to use cash to pay for target firms. Moreover, ROA is positively and significantly associated with acquirer management's propensity to bypass shareholder voting, suggesting that firms with better operating performance are more resourceful in paying for target firms, whereas acquirer prior year stock return is negatively and significantly associated with acquirer management's propensity to bypass shareholder voting, suggesting that acquirers with better stock market performance are more confident in securing their shareholders' support for

[12] In Tables IA1 and IA2 in the Internet Appendix, we show that our main results on the negative association between institutional ownership and acquirer management's propensity to bypass shareholder voting remain after controlling for passive ownership (Appel, Gormley, and Keim 2016; Schmidt and Fahlenbrach 2017), or removing cross-ownership from institutional ownership (Harford, Jenter, and Li 2011). We thank an anonymous referee for suggesting this investigation.

[13] We thank an anonymous referee for suggesting this point.

proposed deals. Finally, buying a private target is positively and significantly associated with acquirer management's propensity to bypass shareholder voting. In anticipating that shareholders will tend to scrutinize private targets more carefully if they have to vote, acquirer management is more likely to bypass shareholder voting.

Panel B controls for additional measures of governance, including acquirer managerial ownership, board size, board independence, and whether the CEO is also Chairman of the Board (CEO-COB duality). There is some weak evidence that higher managerial ownership is associated with a lower likelihood of vote avoidance, whereas the CEO-COB duality is associated with a higher likelihood of vote avoidance (see columns (4)-(5)). Importantly, after controlling for these governance measures, acquirer institutional ownership remains negatively and significantly associated with, whereas agency problems and CEO overconfidence remain positively and significantly associated with, acquirer management's propensity to bypass shareholder voting.

In Tables IA3-5 in the Internet Appendix, we investigate under what conditions acquirer management would want a shareholder vote.[14] We find that voting agreements between an acquirer and its institutional investors are too infrequent to matter. Moreover, we do not find that past success in passing management proposals is significantly associated with acquirer management's propensity to bypass a shareholder vote in M&As.[15] However, we do find some

[14] We thank an anonymous referee for suggesting this investigation.
[15] We caution readers that there is a missing data issue due to the fact that the Institutional Shareholder Services Voting Analytics (ISSVA) database starts its coverage in 2003, while stock deals that we study were more prevalent before 2003 (see Table 2 Panel A).

evidence suggesting increased attention by analysts and proxy advisory firms—but not by the media—in M&A deals with a shareholder vote.[16]

In summary, Table 4 shows that acquirer management, due to agency problems and overconfidence, is more likely to bypass shareholder voting, while institutional monitoring makes acquirer management's vote avoidance less likely.

C. Financing and investment activities and vote avoidance[17]

Our analyses thus far suggest that agency problems and managerial overconfidence are associated with vote avoidance. It becomes important to understand *how* acquirer management is able to manipulate the deal structure without alerting institutional investors or proxy advisory firms like ISS. Are we more likely to see equity or debt issuance immediately preceding a deal announcement? Are acquirers more likely to conserve cash or cut expenses in anticipation of the need to finance a larger portion of a mixed-payment deal? We thus examine acquirers' financing and investment activities prior to the merger announcement.

Our measures of financing and investment activities in the year prior to the bid follow Harford, Mansi, and Maxwell (2008), Gao, Harford, and Li (2013), and Bliss, Cheng, and Denis (2015). Equity issuance is the amount of equity issuance divided by lagged book value of assets. Payout is the amount of dividends and common stock repurchase divided by lagged book value of assets. Debt issuance is the net debt issuance, which is calculated as the change in long-term debt and debt in current liabilities, divided by lagged book value of assets. Investment is the

[16] Proxy advisory firms such as the Institutional Shareholder Services (ISS) will pay additional attention in response to an upcoming shareholder vote, since advising institutional investors on how to vote on management proposals, including M&As, is their primary focus. In the ISSVA database, management proposals are always accompanied by ISS recommendations.

[17] We thank an anonymous referee for suggesting this investigation.

amount of capital expenditures and R&D expenditures divided by lagged book value of assets. To examine the financing and investment activities of vote-avoiding acquirers, we form a control sample of firms matched by year and industry that are the closest in book assets and M/B to our event sample. Table 5 presents the results.

We find that vote-avoiding acquirers issue significantly more equity compared to their matched firms.[18] In addition, the payout ratio for vote-avoiding acquirers is significantly smaller compared to their matched firms. We do not find any significant difference between these two groups in terms of debt issuance and investment. Finally, we find a significantly higher level of cash holdings for vote-avoiding acquirers in the year prior to the bid than that for their matched firms.

Overall, these results suggest that acquirers increase equity issuance, cut payout, and cumulate cash holdings in the year prior to the merger announcement to raise the share of cash in mixed-payment deals to avoid a shareholder vote.

D. Vote avoidance, deal quality, and overpayment

To examine the value implication of vote avoidance, we regress acquirer CAR3 on the indicator variable *Vote avoidance* and other firm and deal controls. Similar to Table 4, the sample consists of mixed-payment deals issuing less than 20% of equity with the ratio of deal value (excluding assumed liabilities) to acquirer market capitalization between 20% and 35% (i.e., *Vote avoidance* = 1) and all-stock deals issuing more than 20% of equity (i.e., *Vote avoidance* = 0). Using the OLS/WLS regressions, we compare cases of potential vote avoidance by acquirer management (the mix-payment deals) and cases of shareholder voting (the all-stock

[18] In a contemporaneous paper, Mason, Stegemoller, and Utke (2017) find that NASDAQ-listed acquirers use seasoned equity offerings to adjust their methods of payment in order to avoid a shareholder vote.

deals). Under the vote avoidance hypothesis, the coefficient on *Vote avoidance* is expected to be negative. The OLS/WLS regressions employ various subsamples parallel to those in Table 4. Table 6 Panel A presents the results.

We find that across all subsamples, *Vote avoidance* is associated with a drop of at least 3.0% in acquirer CAR3, supporting the vote avoidance hypothesis. Given that the average acquirer has a market capitalization of $3.2 billion in the sample, a 3.0% drop in stock returns around the merger announcement corresponds to a value reduction of over $96 million, an economically significant amount to acquirer shareholders.

Becht, Polo, and Rossi (2016) examine whether the deterrent role of mandatory shareholder voting in the U.K. affects quantity (value-destroying deals are withdrawn before the vote) or price (deals subject to a vote are likely to be at lower premiums relative to deals without a vote). The authors conclude that "mandatory voting imposes a binding constraint on acquirer chief executive officers," thus reducing overpayment. In this paper, we work with a richer institutional setting in the U.S., where acquirer management can manipulate the method of payment to avoid a shareholder vote, which provides us an opportunity to examine the tendency for overpayment in M&A deals without a shareholder vote.[19]

To examine this tendency, we need a proxy for offer premium that is comparable between different target types (more than half of the M&A deals in our sample involving private targets), as no data are available for private targets to compute offer premium based on a target's pre-merger stock price. Following Officer (2007) and Officer, Poulsen, and Stegemoller (2009), we hand-collect the book value of assets for private targets from SEC filings and use the ratio of transaction value (excluding assumed liabilities) to assets multiple, adjusted by the target

[19] We thank an anonymous referee for suggesting this investigation.

industry median market value of equity over book value of assets, as a proxy for offer premium/overpayment that can be applied to all target types. Table 6 Panel B presents the results from this investigation.

We find that across all subsamples, *Vote avoidance* is associated with an increase of at least 12% in offer premium, demonstrating the tendency for overpayment in M&A deals when acquirer management manipulates deal structure to avoid shareholder voting. Our evidence in Panel B complements the existing wisdom established by Becht, Polo, and Rossi (2016), that shareholder approval deters overpayment; we find evidence of overpayment in the absence of a shareholder vote in M&A deals.

Overall, we show that acquirer management uses cash as part of the takeover payment to bypass shareholder voting, and that there are robust positive associations between acquirer agency costs and CEO overconfidence and acquirer management's propensity to bypass shareholder voting. We further show that vote avoidance is negatively associated with deal quality, and positively associated with overpayment in M&As, supporting the vote avoidance hypothesis.

Our analyses thus far, although informative, cannot offer causal inference because vote avoidance might be correlated with unobservable firm and deal characteristics that also drive acquirer announcement returns/offer premiums, leading to a spurious association between vote avoidance and acquirer announcement returns/offer premiums. We next examine the opposite of vote avoidance—mandatory shareholder voting when the percent of shares to be issued exceeds 20%—and its effect on deal quality via a clean identification strategy in all-stock deals.

V. The Causal Effect of Shareholder Voting on Deal Quality

As mentioned earlier, listing rules of the NYSE, AMEX, and NASDAQ require shareholder voting when an acquirer intends to issue more than 20% of new shares to finance a deal. The discrete nature of the requirement generates a potentially exogenous source of variation in the distance to the 20% threshold in all-stock deals that can help estimate a causal effect of shareholder voting on deal quality using a RDD.[20]

A. Assumptions of a valid RDD

The key assumption of a valid RDD is that agents cannot *precisely* manipulate the running variable (the percent of shares to be issued). If acquirer management, even while having *some* influence, is unable to *precisely* manipulate the running variable, then the variation in treatment (the requirement of shareholder voting) near the 20% threshold will be *randomized* as though from a randomized experiment. Given that acquirer management can substitute stock with cash in mixed-payment deals to bypass shareholder voting (recall Figure 1), we use a sample of all-stock deals in which *precise* manipulation of the running variable at the 20% threshold is hard to achieve.

In an all-stock deal, acquirer management knows with a fair amount of certainty whether shareholder voting will be required based on the percent of new shares to be issued, but it cannot be fully certain that a deal will bypass shareholder voting due to a number of factors. First, the purchase price and hence the number of shares to be issued in an all-stock deal are the outcome of a lengthy bargaining process and are not determined unilaterally by the acquirer itself (Boone and Mulherin 2007; Ahern 2012). Second, the number of shares to be issued also depends on

[20] A partial list of recent studies using this technique to examine various corporate decisions includes Chava and Roberts (2008), Nini, Smith, and Sufi (2009), Roberts and Sufi (2009), Cuňat, Gine, and Guadalupe (2012, 2016), Bach and Metzger (2016b), Becht, Polo, and Rossi (2016), Malenko and Shen (2016), and Focke, Maug, and Niessen-Ruenzi (2017).

estimates of how much the target firm's outstanding convertible securities and equity-based compensation (e.g., restricted shares and options to employees) will be converted into the acquirer's shares.[21] Finally, the NYSE clearly states, "The issuance of shares from treasury is considered an issuance of shares for purposes of Section 312.03" and hence is counted as part of the new shares to be issued for shareholder voting, thereby preventing acquirer management from using treasury shares to bypass shareholder voting (see Appendix IA1 in the Internet Appendix). Overall, although acquirement management knows is almost certain whether shareholder voting will be required, it cannot precisely control the number of shares to be issued in an all-stock deal. Supporting the argument that acquirer management has little latitude in *precisely* manipulating the percent of shares to be issued in all-stock deals, Figure 1 Panel B reveals no discontinuity in the density function of the running variable.

Another validity test for the RDD is to examine whether baseline firm and deal characteristics are "locally" balanced on either side of the threshold (Lee and Lemieux 2010; Roberts and Whited 2013).[22] Table 7 reports the balancing tests for baseline firm and deal characteristics.[23] None of these variables exhibits any discontinuity at the threshold, confirming

[21] For example, PSINet Inc., in filing its S-4 to register the number of shares to be issued for its stock acquisition of Metamor Worldwide Inc., states, "The number of shares to be registered represents the *maximum* aggregate number of shares of the registrant's common stock that may be issued in connection with the merger, consisting of shares of PSINet common stock issued for (a) 34,641,443 shares of Metamor Worldwide, Inc. common stock currently outstanding, (b) up to 4,898,142 shares of Metamor common stock that may be issued prior to the merger pursuant to Metamor's stock option plans, (c) up to 350,000 shares of Metamor common stock that may be issued prior to the merger pursuant to Metamor's employee stock purchase plan, and (d) up to 5,388,912 shares of Metamor common stock that may be issued prior to the merger upon the conversion of Metamor's outstanding 2.94% Convertible Subordinated Notes."

[22] We acknowledge that the balancing tests do not address the possibility that unobserved factors might drive the treatment.

[23] Prior work shows that discretionary accruals are higher for stock acquirers compared to cash acquirers (Erickson and Wang 1999; Louis 2004). We thus include discretionary accruals and a number of governance measures in our balancing tests.

that any potential treatment effect we observe is not driven by observable firm or deal characteristics.

B. Main results

We start with a plot in Figure 2 of local sample means (i.e., the dots in the graph) of all-stock acquirer CAR3 using non-overlapping evenly spaced bins on each side of the 20% threshold. The solid lines are smoothed regression lines based on quadratic polynomial models estimated separately on the two sides of the 20% threshold, and there are twenty bins on each side with a bin width equal to 1%. The plot shows a striking discontinuous jump in acquirer CAR3, right at the 20% threshold: The acquirers that intend to issue just above (below) the 20% threshold have a mean CAR3 of 4.9% (0.20%).

Table 8 Panel A provides summary statistics for the sample employed in the RDD analysis based on the optimal bandwidth of Imbens and Kalyanaraman (IK, 2011).[24] The mean acquirer CAR3 is 1.1% and the median is -0.1%. The mean (median) market capitalization of acquirers is $3.3 billion ($433 million).

Panel B presents RDD estimates of the treatment effect using local linear regression models on both sides of the threshold with a triangular kernel and for different bandwidths. The average treatment effect is positive and significant, and ranges from an increase of 4.3% to 6.9% in acquirer CAR3, depending on the bandwidth used.[25] Cuňat, Gine, and Guadalupe (2012) find

[24] Based on the IK bandwidth of approximately 15%, 974 deals are used as the control group, and 276 deals are used as the treatment group, or roughly half of the full sample. Based on the fixed bandwidth of 6%/8%/10%, 360/502/679 deals are used in estimation. For comparison, the "Discontinuity Sample" in Chava and Roberts (2008) is about 40% of their full sample.

[25] Since stock prices are forward looking, the treatment effect could also incorporate the likelihood of deal completion. In unreported analyses, we compare the likelihood of deal completion in the two subsamples (the two adjacent bins used in our estimation), and find no significant difference.

that adopting a governance proposal increases shareholder value by 2.8%. Holderness (2017) shows that the increase in firm value associated with shareholder voting compared with unilateral issuances by management is 4.2%. Our estimates are roughly consistent with those from prior studies. These announcement period return increases are economically meaningful. For example, using the IK bandwidth, a 4.3% increase in CAR3 around the merger announcement for an average acquirer with a market capitalization of $3.3 billion in the sample translates to a value increase of $140 million for acquirer shareholders.

To gain further insight into the RDD analysis, we next run OLS/WLS regressions on the indicator variable *Vote* that takes the value of one if shareholder voting is required, and zero otherwise, and on firm and deal controls using different subsamples with the percent of shares to be issued centered around the 20% threshold (Chava and Roberts 2008; Cuňat, Gine, and Guadalupe 2012; Krishnan, Nandy, and Puri 2015).

Panel C presents the results. Column (1) presents the results from the OLS regressions using a sample of deals in which the percent of shares to be issued falls within the band of [14%, 26%] centered at the threshold. The coefficient on *Vote* is positive and significant at 0.029, suggesting that shareholder voting is associated with an increase in acquirer announcement returns of 2.9%. Column (2) presents the regression results using a sample of deals in which the percent of shares to be issued falls within the band of [12%, 28%] centered at the threshold. The coefficient on *Vote* is positive and significant at 0.02, with a smaller standard error than that in column (1). As the band grows, more and more deals in which the percent of shares to be issued is farther from the 20% threshold are included in the estimation, and the effect of shareholder voting becomes smaller. The effect, although with the right sign, becomes insignificant in column (4) when all-stock deals with less than 35% of shares to be issued are included. Column

(5) presents the results from the WLS regression using a weighting scheme similar to the RDD estimates with triangular weights (i.e., higher weights are given to observations closer to the threshold); we find a coefficient of 4.2%. These results corroborate the RDD analysis and also help reconcile our findings with prior studies that find no significant value effect from shareholder voting. These earlier studies employ the full sample of stock deals, giving equal weight to every deal that increasingly differs as the running variable takes a value farther from the threshold (see, for example, Hsieh and Wang 2008; Kamar 2011).

We conduct a number of robustness checks on our main findings (see Table IA6 in the Internet Appendix). First, we employ quadratic polynomial models on both sides of the threshold to estimate the average treatment effect. Second, we incorporate pre-determined firm and deal characteristics in our estimation in order to reduce the sampling variability in the RDD estimate (Lee and Lemieux 2010). Finally, we conduct falsification tests, estimating the treatment effect around some pseudo thresholds other than the regulatory threshold of 20% (Lee and Lemieux 2010; Roberts and Whited 2013). We find that using pseudo thresholds does not generate any significant treatment effect.

In summary, Table 8 and these robustness tests provide strong evidence in support of the shareholder voting hypothesis that the prospect of a shareholder vote commits acquirer management to do value-enhancing deals.

C. External validity[26]

It is well established in the literature (see, for example, Lee and Lemieux 2010) that while the RDD has strong internal validity, its external validity is usually limited because the

[26] We thank an anonymous referee for suggesting this analysis.

estimation is based on a narrow bandwidth around the threshold. By construction, the RDD does not allow us to estimate the causal effect of shareholder voting for all-stock deals. Having said that, there are a number of ways to provide suggestive evidence on the extent of external validity (Imbens and Lemieux 2008; Cuňat, Gine, and Guadalupe 2012; Angrist and Rokkanen 2015; Malenko and Shen 2016).

First, we compare firm and deal characteristics of the RD sample (Table 8, with the percent of shares to be issued within the bandwidth of [5%, 35%]) and the entire all-stock deal sample. Table IA7 in the Internet Appendix presents the results. We show that the RD sample is fairly similar to the all-stock deal sample over the sample period 1995-2015: The notable differences are market capitalization and M/B. The former is because the all-stock deal sample includes acquirers issuing less than 5% of their shares outstanding when these acquirers have larger market capitalization, and the latter is similarly related to market capitalization. While the difference in institutional ownership is statistically significant, it is economically small, at 2.6% in the means (3.9% in the medians) relative to the level of institutional ownership (41% in the mean/39% in the median).

Second, we check whether the OLS estimate of the treatment effect is stable across subsamples. Imbens and Lemieux (2008) point out that if the RD and OLS estimates are close, and if the OLS estimate is relatively stable across subsamples, one would be more confident in both estimates. Table 8 Panel C shows that the RD estimate of the treatment effect (0.043) is very close to its WLS estimate using the RDD sample (0.042).[27] Moreover, the OLS estimate is fairly stable: It varies between 0.018 to 0.029 across various subsamples. As long as the

[27] Since the RD estimate can be interpreted as a weighted average treatment effect, where the weight is the relative *ex ante* probability that the running variable is in the neighborhood of the 20% threshold, it is more sensible to compare the RD estimate with the WLS estimate (Lee and Lemieux 2010).

OLS/WLS estimates in these other subsamples remain close to the causal effect, this finding suggests that our results are potentially generalizable to other all-stock deals.

Third, we employ a new technique developed by Angrist and Rokkanen (2015) (see Cuňat, Gine, and Guadalupe (2015) for a recent application) that allows us to generalize the RD estimate and hence the treatment effect. This method relies upon identifying a set of control variables that constitute a sufficient statistic for the running variable in a window wider than the optimal bandwidth used in the RD estimator—the conditional independence assumption whereby once we condition on the set of control variables, the potential outcomes are mean-independent of the running variable. In other words, by controlling for the set of covariates, we break the correlation between the running variable and the outcome variable, ensuring that we can identify the missing counterfactural average of what would have happened to the treated observations in the absence of the treatment. Table 9 provides the results from this investigation.

Panel A reports tests of the conditional independence assumption when the dependent variable is acquirer CAR3. Columns (1) and (3) present the simple regression results where the only explanatory variable is the running variable when it is in the range of (0, 20%) and [20%, 40%], respectively. Columns (2) and (4) include additional control variables. We observe significant correlations between the running variable and the outcome variable for both subsamples. After including additional controls, the correlations are close to zero. The results in Panel A suggest that for acquirers whose running variable ranges between 0% and 40%, representing close to 80% of all-stock deals, the conditional independence assumption is met and hence the treatment effect can be generalized.

Panel B presents the generalized treatment effect. The dependent variable is acquirer CAR3, weighted by propensity scores estimated from a logit regression where the indicator

variable *Vote* is regressed on the same set of control variables in Panel A columns (2) and (4). Specifically, after obtaining a propensity score p_i for each firm *i* based on the logit regression, we weight the outcome variable (i.e., acquirer CAR3) of a treated (i.e., *Vote* = 1) firm by *1/p* and control (i.e., *Vote* = 0) firm by $1/(1-p)$.

Column (1) presents the simple regression results where the only explanatory variable is the indicator variable *Vote*. Columns (2) and (3) include additional control variables and without and with industry and year fixed effects, respectively. We show that the treatment effect of shareholder approval on acquirer CAR3 remains, ranging between 4.9% and 8.2%. Using the method of Angrist and Rokkanen (2015), we conclude that the positive treatment effect of shareholder approval on acquirer CAR3 can be generalized to close to 80% of all-stock deals.

Finally, it is important to note that our results cannot be easily generalized to issues other than M&As. According to the listing rule, shareholder monitoring in M&As occurs only when a target firm is large relative to its acquirer (hence triggering the 20% rule and acquirer shareholder voting). Given that firms like Apple are so big, the 20% rule ever being triggered is unlikely, and hence shareholder monitoring/voting in M&As is equally unlikely. Nonetheless, big firms like Apple may still be monitored by institutional investors. Outside our M&A setting, Apple has been chastised by its shareholders on multiple occasions to increase payouts.[28]

D. A quasi-natural experiment

Using all-stock deals allows us to establish the validity condition for the RDD (i.e., acquirer management cannot *precisely* manipulate the running variable conditional on doing an all-stock deal). Nonetheless, a potential concern remains that acquirer management's choice of

[28] More details on Apple shareholder activism can be found at: http://www.investopedia.com/articles/markets/022816/apple-activist-investment-analysis-aapl.asp

all-stock payment might correlate with deal quality. To address this concern, we take advantage of the accounting rule change over our sample period that makes the choice of all-stock payment largely exogenous.

The Statements of Financial Accounting Standards (SFAS) 141 and 142 introduced two major reforms in 2001: abolishing the pooling of interests method and goodwill amortization.[29] Before 2001, M&A accounting was done by either the purchase or pooling of interests method. Under the pooling of interests method, an acquirer simply adds a target firm's book assets and liabilities to its balance sheets, and no goodwill and subsequent expenses would be recognized. The purchase method requires an acquirer to estimate the fair market value of a target firm; any difference between the deal value and target fair market value would be recognized as goodwill. Put differently, under the pooling method, book value of the target firm's assets and book value of the acquirer's assets combine; under the purchase method, market value of the target firm is reported on the acquirer's balance sheet, resulting in a higher asset value and higher subsequent depreciation expense for the combined firm. Another significant difference between pooling and purchase involves the day on which target net income is taken into account in the combined firm's financial statements. Pooling requires such consideration from the beginning of the fiscal year; the purchase method begins with the acquisition date. Opting for a pooling or purchase method thus would have different impacts on the financial performance of the combined firm. The purchase method and its associated asset reevaluation and impairment tests have negative impacts on earnings per share, return on equity, and return on assets (see an illustrative example in Reda, 1999). Not accounting for the target's revenues between the start of the fiscal year and the acquisition date could also alter the newly merged firm's initial performance, assuming those

[29] SFAS 141 replaced goodwill amortization with impairments (i.e., goodwill is subject to annual impairment tests and would be expensed if there were a goodwill impairment).

revenues were significant. The pooling of interests method is thus much favored by acquirer management.

To qualify for using the pooling of interests method, acquirers needed to meet a number of conditions listed in the Accounting Principles Board Opinion No. 16 Business Combinations (APB 16: Business Combinations, effective since 1970). In a nutshell, the only way to qualify for pooling accounting was to pay at least 90% of the consideration in stock, because combining existing voting common stock interests through the *exchange of stock* is the essence of a business combination accounted for by the method.

On April 21, 1999, the Financial Accounting Standards Board (FASB) announced that it was eliminating the pooling method—which firms had deeply valued—as of July 1, 2001; thereafter, deals with more than 90% of their consideration in stock would no longer be qualified to use this method.[30] This change in M&A accounting provides a quasi-natural experiment in which all-stock deals initiated prior to the change were largely exogenous to the outcome variable that we examine, as the payment choice was primarily driven by accounting considerations. De Bodt, Cousin, and Roll (2016) attribute the sharp drop in all-stock deals after 2001 to the FASB's rule changes.

Table 10 presents the results using this quasi-natural experiment. Panel A presents the treatment effect estimated using all-stock deals over the period 1995-1998 before the FASB's announcement of its proposal to eliminate the pooling method. Panel B presents the treatment

[30] FASB Statement No. 141 offers the following reasons for the change in accounting methods for M&As: 1) analysts and other users of financial statements reported difficulty in comparing the financial results of entities because different methods of accounting for business combinations were used; 2) users of financial statements also expressed a need for better information about intangible assets, because those assets were an increasingly important economic resource for many entities and were an increasing proportion of the assets acquired in many business combinations; and 3) management stated that the differences between the pooling and purchase methods of accounting for business combinations affected competition in markets for M&As. For more detailed information about FASB Statement No. 141, see http://www.fasb.org/summary/stsum141.shtml.

effect estimated using all-stock deals over the period 1995-2000 before the pooling method was eliminated. The average treatment effect is positive and significant and ranges between 2.8% to 8.6% in announcement period returns, depending on the bandwidth used and the sample period used.

In summary, using subsamples in which the choice of all-stock payment is mostly driven by accounting considerations, the significant treatment effect of shareholder voting on deal quality remains.

VI. Additional Investigation

So far, we have established a positive and significant treatment effect of shareholder voting on acquirer price reaction at the merger announcement. In this section, we explore possible cross-sectional variations in this treatment effect and potential underlying mechanisms.

Prior literature shows that institutional investors as a group are quite active in improving corporate governance practices and addressing agency problems (see the survey by Gillan and Starks 2003; Yermack 2010). In our setting, the sheer complexity and volume of relevant information associated with large M&A deals make it unlikely that an average individual shareholder could perform a thorough analysis and thereby vote informatively. In contrast, institutional investors have the expertise and resources to conduct due diligence, engage in behind-the-scenes interventions, and vote informatively and/or seek recommendations from proxy advisory firms (Burch, Morgan, and Wolf 2004; Cuňat, Gine, and Guadalupe 2012; Iliev, Lins, Miller, and Roth 2015; Malenko and Shen 2016; McCahery, Sautner, and Starks 2016). We thus expect that the value impact of shareholder voting is concentrated among acquirers with a

strong presence of institutional investors. Table 11 Panel A presents heterogeneity in the treatment effect of shareholder voting.

We compare the two subsamples of all-stock acquirers based on their institutional ownership. In the high institutional ownership subsample (i.e., institutional ownership above the sample median), we show a positive and economically significant treatment effect: Shareholder voting contributes to a 9% increase in acquirer value (using the IK bandwidth). In contrast, in the low institutional ownership subsample, we find no significant treatment effect of shareholder voting, although the coefficient estimates are positive. These results are consistent with our conjecture that the value effect of shareholder voting is concentrated in acquirers with greater institutional ownership.

We next explore a possible economic mechanism underlying the positive treatment effect. A natural starting point is to examine offer premium (Becht, Polo, and Rossi 2016). The idea is that the requirement of shareholder voting might constrain acquirer management in the amount it can offer. Following Schwert (1996) and Boone and Mulherin (2007), offer premium is computed as target cumulative abnormal returns over the event window (-63, +126) using market-adjusted returns from the CRSP value-weighted index, where day 0 is the merger announcement date. Panel B compares RDD estimates of the treatment effect on offer premium between the two subsamples of all-stock acquirers based on their institutional ownership.

In the high institutional ownership subsample, we show a positive and economically significant treatment effect: Shareholder voting contributes to at least a 26% drop in offer premiums (using the +/-6, +/-8, and +/-10 bandwidths). In contrast, in the low institutional ownership subsample, we find no significant treatment effect of shareholder voting, although most of the coefficient estimates are negative.

Finally, to explore if there is any real effect of shareholder voting in M&As, we examine post-merger operating performance.[31] Panel C presents RDD estimates of the difference in post-merger three-year average ROA between two subsamples based on their institutional ownership. Consistent with the announcement return analysis, we observe significant positive treatment effects only among acquirers with high institutional ownership. For example, the three-year average ROA after deal completion is about 11% higher for the treatment group than the control group when acquirers have high institutional ownership using the IK bandwidth. In contrast, there are no statistically significant jumps for acquirers with low institutional ownership. Our findings on better long-run operating performance suggest a real effect of shareholder voting on deal-making—doing deals with greater synergies is part of the underlying mechanism (as opposed to paying less for targets being the whole story).

Taken together, Table 11 provides consistent evidence that shareholder voting adds value because it deters acquirer management from overpayment and results in better long-run operating performance.

VII. Conclusions

In this paper, we examine why acquirer management might avoid shareholder voting, how it does so, and whether acquirer shareholder voting affects deal outcomes. Using a hand-collected sample of stock deals over the period 1995-2015, we first show that acquirers with more severe agency problems and overconfident CEOs are more likely to bypass shareholder voting. We find that to avoid a shareholder vote, acquirers increase equity issuance, cut payout,

[31] In untabulated analyses, we also examine post-merger buy-and-hold abnormal returns and find no significantly different returns around the threshold in the full sample or subsamples, suggesting that the abnormal announcement returns have captured improvement in operating performance in the future.

and cumulate cash holdings in the year prior to the merger announcement to raise the share of cash in mixed-payment deals. We further show that acquirers who bypass shareholder voting have lower announcement returns and make higher offers than those who do not. Using exchange listing rules as our identification strategy, we find a large and significant jump in acquirer announcement returns at the 20% threshold in all-stock deals when shareholder voting is mandatory. We further show that this positive effect is concentrated among acquirers with high institutional ownership, and that the requirement of shareholder voting leads to less overpayment and better post-merger operating performance. We conclude that the requirement of shareholder voting is effective in addressing agency problems in M&As.

Appendix A. Variable definitions

All Compustat firm characteristics are measured as of the fiscal year-end before the merger announcement, and all continuous variables are winsorized at the 1st and 99th percentiles. All dollar values are in 1995 dollars.

Variable	Definition
Vote avoidance	An indicator variable that takes the value of one if a deal has a mixed payment with the percent of shares to be issued less than 20% of shares outstanding and the ratio of deal value (excluding assumed liabilities) to acquirer market capitalization between 20% and 35%, and takes the value of zero if a deal has an all-stock payment with the percent of shares to be issued more than 20%.
Vote	An indicator variable that takes the value of one if a deal has an all-stock payment with the percent of shares to be issued more than 20% of shares outstanding, and zero otherwise.
Percent of shares to be issued	The number of new shares to be issued divided by the total number of shares outstanding.
CAR3	Cumulative abnormal return in a three-day window surrounding the merger announcement using market-adjusted returns from the CRSP value-weighted index.
Institutional ownership	Institutional ownership reported in 13F, measured at the most recent quarter-end prior to the merger announcement.
Agency	Operating cash flow divided by the acquirer's book value of assets when acquirer M/B is not in the top quartile, and zero otherwise.
CEO overconfidence	An indicator variable that takes the value of one if the acquirer CEO is identified as overconfident in the year prior to the merger announcement, and zero otherwise. CEOs who hold stock options that are 100% or more in the money are classified as overconfident CEOs (Malmendier and Tate 2008; Campbell et al. 2011).
CEO overconfidence missing	An indicator variable that takes the value of one if the information required to classify overconfident CEOs is missing, and zero otherwise.
Deal risk	An indicator variable that takes the value of one if a deal's transaction value is in the top quartile, and zero otherwise (Bhagwat, Dam, and Harford 2016).
Value/assets multiple	Transaction value (excluding assumed liabilities) divided by the target firm's book value of assets, adjusted by the target industry median market value of equity over book value of assets.
Total assets	Book value of total assets.
Market capitalization	The stock price 50 days prior to the merger announcement (i.e., day -50) times the number of shares outstanding.
M/B	Market value of equity divided by book value of equity.
Leverage	Book value of debt divided by book value of assets.
Cash	Cash holdings divided by book value of assets.
ROA	Net income divided by book value of assets.
Prior year return	Buy-and-hold return in the year prior to the merger announcement minus the buy-and-hold return on the CRSP value-weighted index over the same period.
Deal value	Transaction value as reported by SDC.
Relative size	Deal value dividend by the acquirer's book value of assets.
Diversifying	An indicator variable that takes the value of one if the acquirer is not from the same two-digit SIC industry as the target firm, and zero otherwise.
Tender offer	An indicator variable that takes the value of one if SDC reports that the deal is a tender offer, and zero otherwise.
Private target	An indicator variable that takes the value of one if target status reported by SDC is either 'Private' or 'Subsidiary', and zero otherwise.
Managerial ownership	Managerial ownership reported in ExecuComp, BoardEx, or Compact Disclosure, measured at the most recent quarter-end prior to the merger announcement.

Board size	The number of directors on a corporate board.
Board independence	The fraction of directors on a corporate board that is independent.
CEO-COB duality	An indicator variable that takes the value of one if a CEO is also Chairman of the Board (COB), and zero otherwise.
Equity issuance	The amount of equity issuance divided by lagged book value of assets.
Payout	The amount of dividends and common stock repurchase divided by lagged book value of assets.
Debt issuance	The net debt issuance, which is calculated as the change in long-term debt and debt in current liabilities, divided by lagged book value of assets.
Investment	The amount of capital expenditures and R&D expenditures divided by lagged book value of assets.
Discretionary accrual	Discretionary accrual is calculated quarterly using modified Jones model, and then adjusted for past performance (Kothari, Leone, and Wasley, 2005). We use the most recent quarter-end prior to the merger announcement.
Offer premium	Target cumulative abnormal returns over the event window (-63, +126) using market-adjusted returns from the CRSP value-weighted index, where day 0 is the merger announcement date (Schwert 1996; Boone and Mulherin 2007).
ROA3	Acquirer post-merger operating performance, computed as the three-year average ROA.

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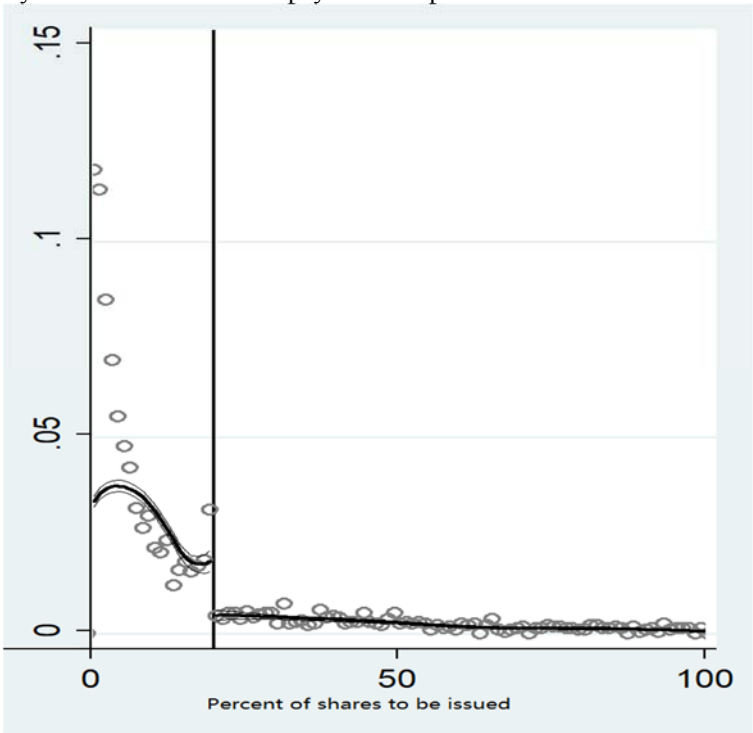
Figure 1. McCrary density function of the percent of shares to be issued

The sample consists of 5,223 stock deals between 1995 and 2015 from the Thomson One Banker SDC database. This figure presents the McCrary density function of the percent of shares to be issued. The solid vertical line in the plot represents the 20% threshold. Panel A plots the sample of 2,535 deals involving mixed payment. Panel B plots the sample of 2,688 deals involving all-stock payment.

Panel A: McCrary density function for the mixed-payment sample



Panel B: McCrary density function for the all-stock sample

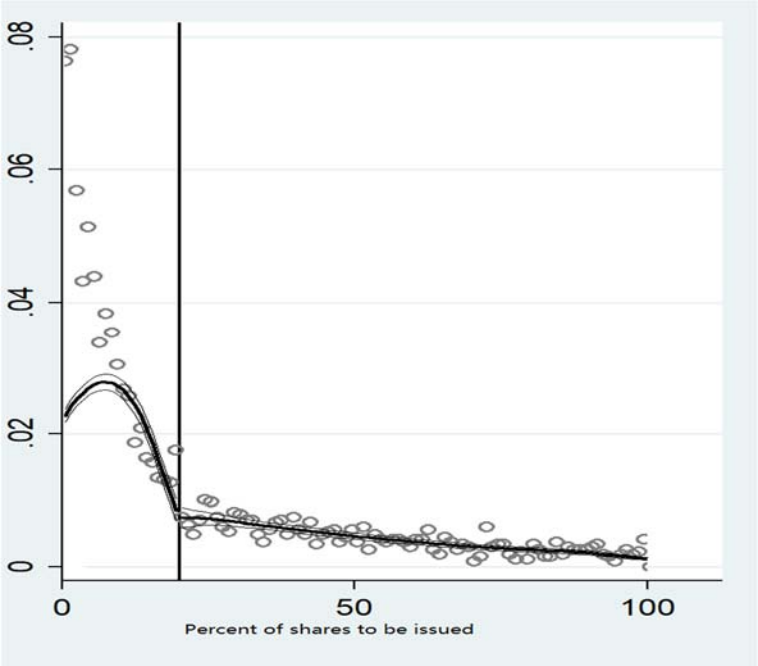


Figure 2. Acquirer announcement returns around the 20% threshold

The sample consists of 2,131 all-stock deals with the percent of shares to be issued in the range between 0 and 40%. This figure presents a plot of local sample means (i.e., the dots in the graph) of acquirer CAR3 using non-overlapping evenly spaced bins on each side of the 20% threshold (# bins = 20). The solid vertical line in the plot represents the 20% threshold. The solid lines are smoothed regression lines based on quadratic polynomial models estimated separately on the two sides of the 20% threshold.

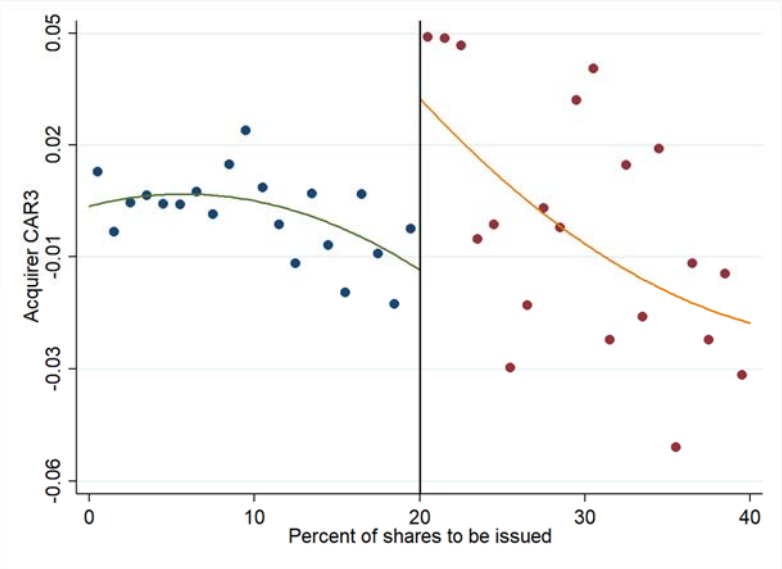


Table 1. Sample formation

This table lists the steps taken to form the sample of stock deals between 1995 and 2015 from the Thomson One Banker SDC database.

Sample filters	# of deals
Date Announced: 01/01/1995 to 12/31/2015 & Form of the Deal: AA, AM, M	184,503
Acquirer Public Status: P	84,488
Percent of Shares Held at Announcement: Less Than 50%	84,458
Percent of Shares Acquirer Seeking to Own after Transaction: 100%	79,713
Target Public Status: V, P, S	79,326
Deal Value ($ Mil): 1 (1995 dollar) & Return Data on CRSP & Basic Accounting Data on Compustat	26,513
Relative Size > 1%	21,866
Deals Involving Stock Payment	6,040
Exclude Deals by Limited Partnerships Traded on NYSE, AMEX, and NASDAQ	5,512
Exclude Share Issuance >100%	5,337
Exclude Deals That Intend to Issue More Than 20% but Shareholder Voting Not Required and Deals That Intend to Issue Less than 20% but Shareholder Voting Required	5,223

Table 2. Sample distribution over time

The sample consists of 5,223 stock deals between 1995 and 2015 from the Thomson One Banker SDC database. Panel A presents the temporal distribution for the full sample. Panel B presents the temporal distribution by method of payment.

Panel A: The full sample

Year	# of deals	Require shareholder voting	Do not require shareholder voting	% Require shareholder voting
1995	316	95	221	30.1%
1996	493	130	363	26.4%
1997	637	175	462	27.5%
1998	627	156	471	24.9%
1999	508	119	389	23.4%
2000	499	116	383	23.2%
2001	295	88	207	29.8%
2002	184	40	144	21.7%
2003	175	45	130	25.7%
2004	194	49	145	25.3%
2005	193	42	151	21.8%
2006	162	37	125	22.8%
2007	135	28	107	20.7%
2008	112	28	84	25.0%
2009	95	36	59	37.9%
2010	83	19	64	22.9%
2011	70	19	51	27.1%
2012	91	25	66	27.5%
2013	76	28	48	36.8%
2014	150	49	101	32.7%
2015	128	35	93	27.3%
Total	5,223	1,359	3,864	

Panel B: By method of payment

	All-stock payment			Mixed payment		
Year	# of deals	Require shareholder voting	Do not require shareholder voting	# of deals	Require shareholder voting	Do not require shareholder voting
1995	237	78	159	79	17	62
1996	347	84	263	146	46	100
1997	407	132	275	230	43	187
1998	394	117	277	233	39	194
1999	339	79	260	169	40	129
2000	329	88	241	170	28	142

2001	144	56	88	151	32	119
2002	58	24	34	126	16	110
2003	67	26	41	108	19	89
2004	61	32	29	133	17	116
2005	50	22	28	143	20	123
2006	39	19	20	123	18	105
2007	31	16	15	104	12	92
2008	27	14	13	85	14	71
2009	28	19	9	67	17	50
2010	20	8	12	63	11	52
2011	16	9	7	54	10	44
2012	16	10	6	75	15	60
2013	19	15	4	57	13	44
2014	36	28	8	114	21	93
2015	23	16	7	105	19	86
Total	2,688	892	1,796	2,535	467	2,068

Table 3. Summary statistics

The sample consists of 5,223 stock deals between 1995 and 2015 from the Thomson One Banker SDC database. Panel A presents summary statistics for the full sample. Panel B compares the subsample of 1,359 deals requiring shareholder voting (i.e., the percent of shares to be issued ⩾ 20%) with the subsample of 3,864 deals that do not require shareholder voting (i.e., the percent of shares to be issued < 20%). The last two columns present the tests of differences in means and medians between the two subsamples. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively. Panel C presents the correlation matrix with superscripts a, b, c corresponding to statistical significance at the 1, 5, and 10 percent levels, respectively. Definitions of all variables are provided in Appendix A.

Panel A: The full sample

Variable	Mean	10^{th} percentile	Median	90^{th} percentile	Std Dev
CAR3	0.010	-0.091	0.002	0.111	0.110
Institutional ownership	0.462	0.074	0.466	0.826	0.292
Agency	0.026	-0.03	0	0.136	0.097
CEO overconfidence	0.165	0	0	1	0.371
CEO overconfidence missing	0.640	0	1	1	0.480
Deal risk	0.177	0	0	1	0.382
Total assets	4260.80	32.06	304.94	5629.01	30536.04
Market cap	4615.10	50.40	430.06	6755.60	22235.93
M/B	5.182	1.235	2.940	10.820	7.023
Leverage	0.136	0.000	0.047	0.400	0.185
Cash	0.157	0.010	0.079	0.415	0.187
ROA	-0.067	-0.336	0.017	0.124	0.433
Prior year return	0.101	-0.534	0.078	0.779	0.596
Deal value	776.02	5.64	51.29	1062.57	4222.91
Relative size	0.409	0.021	0.145	1.000	0.740
Diversifying	0.346	0	0	1	0.476
Tender offer	0.011	0	0	0	0.107
Private target	0.662	0	1	1	0.473

Panel B: Comparing deals with shareholder voting versus those without

	Require shareholder voting (N = 1,359)			Do not require shareholder voting (N = 3,864)			Test of difference	
Variable	Mean (1)	Median (2)	Std Dev (3)	Mean (4)	Median (5)	Std Dev (6)	t-test (1) - (4)	Wilcoxon test (2) - (5)
CAR3	0.001	-0.010	0.138	0.013	0.004	0.098	-0.012***	-0.014***
Institutional ownership	0.424	0.402	0.310	0.475	0.484	0.284	-0.0510***	-0.082***
Agency	0.024	0.014	0.116	0.026	0	0.090	-0.003	0.014***
CEO overconfidence	0.160	0	0.367	0.179	0	0.383	-0.019	0
CEO overconfidence missing	0.657	1	0.475	0.634	1	0.482	0.024	0
Deal risk	0.351	0	0.477	0.116	0	0.320	0.235***	0***
Total assets	6876.84	433.32	45206.24	3340.72	269.25	23212.53	3536.12***	164.08***
Market cap	3206.63	316.14	11985.47	5110.48	465.54	24838.20	-1903.85***	-149.40***
M/B	4.060	2.227	6.491	5.573	3.270	7.159	-1.513***	-1.042***
Leverage	0.160	0.074	0.198	0.127	0.039	0.180	0.033***	0.035***
Cash	0.128	0.049	0.179	0.167	0.096	0.188	-0.039***	-0.047***
ROA	-0.069	0.012	0.368	-0.066	0.021	0.454	-0.003	-0.009***
Prior year return	0.0002	0.026	0.570	0.137	0.100	0.601	-0.137***	-0.074***
Deal value	1989.56	171.24	7474.16	349.21	34.93	1941.17	1640.35***	136.32***
Relative size	0.822	0.456	1.065	0.271	0.111	0.583	0.551***	0.345***
Diversifying	0.276	0	0.447	0.370	0	0.483	-0.094***	0***
Tender offer	0.007	0	0.081	0.013	0	0.114	-0.007*	0*
Private target	0.323	0	0.468	0.782	1	0.413	-0.459***	-1***

Panel C: Pearson correlation

	CAR3	Institutional ownership	Agency	CEO over-confidence	CEO over-confidence missing	Deal risk	Total assets	Mark et cap	M/B	Leve-rage	Cash	ROA	Prior year return	Deal value	Rela-tive size	Diversi fying	Tender offer
CAR3	1																
Institutional ownership	-0.07[a]	1															
Agency	-0.03[c]	0.15[a]	1														
CEO overconfidence	0.00	-0.06[a]	0.12[a]	1													
CEO overconfidence missing	0.08[a]	-0.43[a]	-0.16[a]	0.02	1												
Deal risk	-0.10[a]	0.28[a]	0.11[a]	-0.04[a]	-0.40[a]	1											
Total assets	-0.04[a]	0.05[a]	0.02	-0.02	-0.16[a]	0.24[a]	1										
Market cap	-0.04[a]	0.08[a]	0.00	-0.05[b]	-0.24[a]	0.27[a]	0.32[a]	1									
M/B	0.06[a]	0.01	-0.02	0.01	0.01	0.01	-0.01	0.01	1								
Leverage	-0.01	0.16[a]	0.09[a]	0.00	-0.07[a]	0.21[a]	0.00	-0.04[b]	0.05[a]	1							
Cash	0.00	-0.04[a]	-0.021	-0.06[a]	0.18[a]	-0.17[a]	-0.08[a]	-0.07[a]	0.01	-0.26[a]	1						
ROA	0.01	0.17[a]	0.25[a]	0.07[a]	-0.17[a]	0.09[a]	0.03[b]	0.06[a]	-0.05[a]	0.06[a]	-0.26[a]	1					
Prior year return	0.01	0.12[a]	-0.07[a]	-0.05[a]	0.05[a]	-0.01	-0.01	0.07[a]	0.01	0.00	0.03[b]	-0.01	1				
Deal value	-0.06[a]	0.08[a]	0.04[b]	-0.04[c]	-0.20[a]	0.36[a]	0.43[a]	0.37[a]	0.01	0.05[a]	-0.08[a]	0.04[a]	0.02[c]	1			
Relative size	0.01	-0.02	-0.09[a]	0.00	0.04[a]	0.10[a]	-0.02	0.01	0.08[a]	-0.03[b]	0.08[a]	-0.16[a]	0.08[a]	0.13[a]	1		
Diversifying	0.03[b]	-0.01	-0.03	0.01	-0.01	-0.05[a]	0.00	0.06[a]	0.00	0.03[c]	-0.01	0.00	0.03[b]	-0.03[b]	-0.01	1	
Tender offer	-0.03[b]	0.06[a]	0.03	-0.02	-0.08[a]	0.08[a]	0.00	0.01	0.00	0.01	-0.02	-0.01	0.00	0.01	0.00	0.02	1
Private target	0.20[a]	-0.10[a]	-0.08[a]	-0.01	0.24[a]	-0.41[a]	-0.14[a]	-0.10[a]	0.00	-0.08[a]	0.18[a]	-0.08[a]	0.10[a]	-0.20[a]	-0.05[a]	0.11[a]	-0.15[a]

Table 4. Explaining vote avoidance

This table presents estimates from a linear probability regression in which the dependent variable is an indicator variable, *Vote avoidance*, that takes the value of one if a deal has a mixed payment with the percent of shares to be issued less than 20% of shares outstanding and the ratio of deal value (excluding assumed liabilities) to acquirer market capitalization between 20% and 35%, and takes the value of zero if a deal has an all-stock payment with the percent of shares to be issued more than 20%. The sample consists of mixed-payment deals intending to issue less than 20% with the ratio of deal value (excluding assumed liabilities) to acquirer market capitalization between 20% and 35% (i.e., *Vote avoidance* = 1, and shareholder voting is not required) and all-stock deals intending to issue more than 20% (i.e., *Vote avoidance* = 0, and shareholder voting is required). The linear probability regression uses different subsamples with the percent of shares to be issued centered at the 20% threshold. For example, in column (1), deals with the percent of shares to be issued falling within the band of [14%, 26%] centered at the threshold are used in the regression. In columns (1) - (4), coefficients are estimated using the ordinary least squares regression. In column (5), coefficients are estimated using the weighted least squares regression where the weight is the inverse of an observation's distance to the 20% threshold (i.e., weight = 1/|% shares to be issued – 20%|. Panel A presents the baseline results. Panel B controls for additional measures of governance. For brevity, we only present results on key variables of interest in Panel B. The heteroskedasticity-consistent standard errors (in parentheses) account for possible correlation within a firm cluster. All variables are defined in Appendix A. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A: The baseline specification

	(1)	(2)	(3)	(4)	(5)
	OLS	OLS	OLS	OLS	WLS
% shares to be issued	[14%, 26%]	[12%, 28%]	[10%, 30%]	[5%, 35%]	[5%, 35%]
Institutional ownership	-0.398***	-0.346***	-0.275**	-0.132	-0.544***
	(0.150)	(0.119)	(0.107)	(0.089)	(0.070)
Agency	1.019***	0.883***	0.586**	0.649***	1.426***
	(0.305)	(0.263)	(0.265)	(0.193)	(0.133)
CEO overconfidence	0.208*	0.218**	0.154**	0.109*	0.177***
	(0.121)	(0.098)	(0.077)	(0.065)	(0.063)
CEO overconfidence missing	0.127	0.184	-0.012	0.054	-0.122
	(0.194)	(0.174)	(0.110)	(0.110)	(0.098)
Deal risk	0.070	0.091	0.122*	0.098*	0.164***
	(0.095)	(0.080)	(0.066)	(0.053)	(0.051)
M/B	-0.002	-0.007	-0.006	-0.003	-0.012**
	(0.008)	(0.007)	(0.006)	(0.006)	(0.005)
Leverage	0.582**	0.425**	0.436**	0.457***	0.466***
	(0.265)	(0.189)	(0.174)	(0.147)	(0.099)
Cash	-0.162	0.049	-0.016	-0.054	-0.017
	(0.215)	(0.173)	(0.170)	(0.142)	(0.097)
ROA	0.198*	0.222**	0.143	0.104	0.167***
	(0.113)	(0.102)	(0.099)	(0.070)	(0.055)
Prior year return	-0.125**	-0.108**	-0.112**	-0.063*	-0.111***
	(0.059)	(0.051)	(0.051)	(0.033)	(0.031)
Relative size	-0.025	-0.005	0.004	-0.013	-0.011
	(0.045)	(0.039)	(0.036)	(0.030)	(0.026)
Diversifying	0.069	0.034	0.096	0.022	0.060
	(0.085)	(0.073)	(0.064)	(0.052)	(0.040)

Tender offer	-0.231	0.056	0.152	0.459***	-0.111
	(0.272)	(0.192)	(0.170)	(0.140)	(0.117)
Private target	0.291***	0.314***	0.308***	0.367***	0.235***
	(0.075)	(0.063)	(0.056)	(0.045)	(0.042)
Constant	-0.436	-0.448	-0.512***	0.550***	-0.092
	(0.480)	(0.448)	(0.161)	(0.115)	(0.391)
Industry/Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	228	301	363	513	513
R-squared	0.526	0.504	0.465	0.437	0.764

Panel B: Controlling for additional measures of corporate governance

	(1)	(2)	(3)	(4)	(5)
	OLS	OLS	OLS	OLS	WLS
% shares to be issued	[14%, 26%]	[12%, 28%]	[10%, 30%]	[5%, 35%]	[5%, 35%]
Institutional ownership	-0.299*	-0.268**	-0.214*	-0.095	-0.523***
	(0.171)	(0.134)	(0.121)	(0.095)	(0.076)
Agency	1.229***	0.871***	0.580*	0.572***	1.594***
	(0.394)	(0.322)	(0.318)	(0.216)	(0.157)
CEO overconfidence	0.215	0.193*	0.137	0.086	0.174**
	(0.136)	(0.107)	(0.086)	(0.072)	(0.074)
CEO overconfidence missing	0.211	0.110	0.055	0.086	-0.120
	(0.239)	(0.179)	(0.123)	(0.122)	(0.103)
Deal risk	0.084	0.091	0.094	0.066	0.167***
	(0.094)	(0.078)	(0.070)	(0.057)	(0.061)
Managerial ownership	0.313	0.023	-0.066	-0.235	-1.224***
	(0.602)	(0.524)	(0.436)	(0.328)	(0.302)
Board size	-0.006	-0.003	0.001	-0.004	-0.006
	(0.011)	(0.009)	(0.008)	(0.007)	(0.006)
Board independence	0.002	0.002	0.002	0.001	0.001
	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
CEO-COB duality	0.002	0.037	0.030	0.093**	0.020
	(0.084)	(0.062)	(0.055)	(0.046)	(0.038)
Constant	-0.425	-0.393	-0.579***	0.494***	-0.022
	(0.326)	(0.239)	(0.195)	(0.165)	(0.398)
Other controls	Yes	Yes	Yes	Yes	Yes
Industry/Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	214	275	331	473	473
R-squared	0.519	0.496	0.461	0.439	0.768

Table 5: Financing and investment activities and vote avoidance

This table examines financing/investment activities in the year prior to the merger announcement of acquirers who avoided shareholder voting. We compare an event sample (i.e., *Vote avoidance* = 1) with a control sample of firms matched by year and industry that are the closest in book assets and M/B to the event sample. We report the summary statistics of equity issuance, payout, debt issuance, investment, and cash holdings for firms in the vote avoidance sample and their matched firms in the year prior to the merger announcement. The last two columns present the tests of differences in means and medians between the two samples. All variables are defined in Appendix A. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

	Treated firms (Vote avoidance = 1)			Matched firms			Test of difference	
Variable	Mean	Median	Std Dev	Mean	Median	Std Dev	t-test	Wilcoxon test
	(1)	(2)	(3)	(4)	(5)	(6)	(1) - (4)	(2) - (5)
Equity issuance								
[14%, 26%]	0.262	0.011	0.535	0.094	0.005	0.259	0.168***	0.006***
[12%, 28%]	0.268	0.012	0.539	0.109	0.005	0.272	0.159***	0.007***
[10%, 30%]	0.278	0.013	0.535	0.100	0.005	0.263	0.178***	0.008***
[5%, 35%]	0.261	0.012	0.514	0.092	0.004	0.248	0.169***	0.008***
Payout								
[14%, 26%]	-0.053	0.001	0.315	0.022	0.002	0.047	-0.075**	-0.001*
[12%, 28%]	-0.039	0.001	0.282	0.015	0.001	0.056	-0.054*	0.000
[10%, 30%]	-0.035	0.000	0.263	0.021	0.002	0.061	-0.056**	-0.002*
[5%, 35%]	-0.020	0.000	0.217	0.028	0.002	0.107	-0.048***	-0.002***
Debt issuance								
[14%, 26%]	0.047	0.001	0.246	0.027	0.000	0.141	0.020	0.001
[12%, 28%]	0.083	0.002	0.405	0.048	0.000	0.259	0.035	0.002
[10%, 30%]	0.081	0.000	0.389	0.048	0.000	0.242	0.033	0.000
[5%, 35%]	0.106	0.000	0.483	0.050	0.000	0.226	0.056*	0.000
Investment								
[14%, 26%]	0.160	0.080	0.232	0.124	0.064	0.224	0.037	0.016
[12%, 28%]	0.180	0.083	0.283	0.140	0.066	0.264	0.039	0.017
[10%, 30%]	0.182	0.084	0.278	0.139	0.073	0.253	0.043	0.011
[5%, 35%]	0.169	0.081	0.277	0.147	0.073	0.259	0.023	0.008
Cash holdings								
[14%, 26%]	0.276	0.077	0.435	0.199	0.071	0.255	0.077*	0.006
[12%, 28%]	0.310	0.093	0.458	0.209	0.076	0.273	0.101***	0.017*
[10%, 30%]	0.290	0.103	0.430	0.215	0.103	0.266	0.075**	0.000
[5%, 35%]	0.253	0.082	0.395	0.201	0.081	0.253	0.053**	0.001

Table 6. Vote avoidance, deal quality, and overpayment

This table examines the relation between vote avoidance and deal quality and overpayment. Panel A presents the regression results when the dependent variable is acquirer CAR3. Panel B presents the regression results when the dependent variable is offer premium proxied by value/assets multiple, computed as transaction value (excluding assumed liabilities) divided by the target firm's book value of assets, adjusted by the target industry median market value of equity over book value of assets. The variable of interest is the indicator variable, *Vote avoidance*, that takes the value of one if a deal has a mixed payment with the percent of shares to be issued less than 20% of shares outstanding and the ratio of deal value (excluding assumed liabilities) to acquirer market capitalization between 20% and 35%, and takes the value of zero if a deal has an all-stock payment with the percent of shares to be issued more than 20%. The sample consists of mixed-payment deals intending to issue less than 20% with the ratio of deal value (excluding assumed liabilities) to acquirer market capitalization between 20% and 35% (i.e., *Vote avoidance* = 1, and shareholder voting is not required) and all-stock deals intending to issue more than 20% (i.e., *Vote avoidance* = 0, and shareholder voting is required). The regression uses different subsamples with the percent of shares to be issued centered at the 20% threshold. For example, in column (1), deals with the percent of shares to be issued falling within the band of [14%, 26%] centered at the threshold are used in the regression. In columns (1) - (4), coefficients are estimated using the OLS regression. In column (5), coefficients are estimated using the WLS regression where the weight is the inverse of an observation's distance to the 20% threshold (i.e., weight = 1/|% shares to be issued – 20%|. All variables are defined in Appendix A. The heteroskedasticity-consistent standard errors (in parentheses) account for possible correlation within a firm cluster. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Acquirer CAR3

	(1)	(2)	(3)	(4)	(5)
% shares to be issued	[14%, 26%]	[12%, 28%]	[10%, 30%]	[5%, 35%]	[5%, 35%]
Vote avoidance	-0.038*	-0.030*	-0.034**	-0.030**	-0.069***
	(0.021)	(0.018)	(0.016)	(0.014)	(0.012)
M/B	0.000	-0.001	-0.001	-0.002	-0.001
	(0.004)	(0.003)	(0.003)	(0.002)	(0.002)
Leverage	-0.028	-0.049	-0.074	-0.049	0.114***
	(0.085)	(0.056)	(0.047)	(0.039)	(0.038)
Cash	-0.106	-0.093	-0.078	-0.070	-0.173***
	(0.069)	(0.061)	(0.051)	(0.044)	(0.032)
ROA	-0.104***	-0.107***	-0.102***	-0.066**	-0.125***
	(0.039)	(0.040)	(0.036)	(0.030)	(0.021)
Prior year return	0.009	0.010	0.007	-0.013	-0.002
	(0.019)	(0.015)	(0.015)	(0.013)	(0.011)
Log(Deal value)	-0.002	-0.002	-0.001	0.001	0.001
	(0.005)	(0.004)	(0.004)	(0.003)	(0.004)
Relative size	-0.018	-0.016	-0.017	-0.008	-0.016
	(0.018)	(0.017)	(0.015)	(0.011)	(0.010)
Diversifying	0.010	0.019	0.018	0.019	0.006
	(0.027)	(0.023)	(0.019)	(0.015)	(0.014)
Tender offer	-0.006	-0.023	-0.026	-0.022	-0.011
	(0.041)	(0.045)	(0.037)	(0.030)	(0.044)
Private target	0.071***	0.070***	0.074***	0.073***	0.111***
	(0.020)	(0.018)	(0.015)	(0.015)	(0.015)
Constant	-0.027	-0.021	-0.042	0.074**	0.062
	(0.054)	(0.050)	(0.048)	(0.031)	(0.255)

Industry/Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	228	301	363	513	513
R-squared	0.405	0.352	0.352	0.289	0.876

Panel B: Value/assets multiple

	(1)	(2)	(3)	(4)	(5)
% shares to be issued	[14%, 26%]	[12%, 28%]	[10%, 30%]	[5%, 35%]	[5%, 35%]
Vote avoidance	0.192***	0.124*	0.107	0.141**	0.144***
	(0.072)	(0.070)	(0.070)	(0.061)	(0.054)
M/B	0.009	0.010	0.008	0.007	0.011**
	(0.007)	(0.007)	(0.006)	(0.005)	(0.006)
Leverage	-0.691*	-0.915***	-0.604	-0.373	-0.428**
	(0.390)	(0.250)	(0.372)	(0.303)	(0.174)
Cash	-0.340	-0.200	-0.019	-0.039	-0.176
	(0.226)	(0.212)	(0.196)	(0.165)	(0.187)
ROA	-0.108	-0.123	-0.069	0.065	0.157
	(0.183)	(0.146)	(0.161)	(0.117)	(0.113)
Prior year return	0.205*	0.175**	0.080	0.061	0.116*
	(0.108)	(0.076)	(0.077)	(0.079)	(0.062)
Log(Deal value)	0.034*	0.031	0.028	0.042***	0.029
	(0.021)	(0.020)	(0.017)	(0.016)	(0.018)
Relative size	0.024	0.032	0.052	0.069*	0.064
	(0.052)	(0.047)	(0.058)	(0.040)	(0.041)
Diversifying	-0.414***	-0.127	-0.006	-0.052	-0.091
	(0.130)	(0.147)	(0.101)	(0.073)	(0.087)
Tender offer	0.172	0.048	0.069	-0.050	0.003
	(0.244)	(0.218)	(0.194)	(0.152)	(0.153)
Private target	0.181**	0.114	0.053	0.145***	0.135**
	(0.070)	(0.071)	(0.057)	(0.051)	(0.057)
Constant	-1.018***	-0.617**	-0.725***	-0.737***	-0.751**
	(0.303)	(0.262)	(0.246)	(0.206)	(0.380)
Industry/Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	148	212	256	349	349
R-squared	0.899	0.786	0.776	0.703	0.949

Table 7. Testing local randomization for baseline characteristics

This table presents balancing tests suggested by Lee and Lemieux (2010) and Roberts and Whited (2013). The sample consists of 2,688 all-stock deals announced between 1995 and 2015 from the Thomson One Banker SDC database. The difference in each baseline characteristic around the 20% threshold is estimated by fitting a local linear regression using a triangular kernel to the left and right of the threshold. All variables are defined in Appendix A. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Variable	Coef.	Std. Err.	Z	P value	Bandwidth
Institutional ownership	0.056	0.069	0.819	0.413	+/- 6
	0.037	0.060	0.609	0.543	+/- 8
	0.029	0.053	0.545	0.586	+/- 10
	0.019	0.040	0.465	0.642	IK (+/- 13.65)
Agency	-0.107	0.08	-1.351	0.177	+/- 6
	-0.095	0.062	-1.533	0.125	+/- 8
	-0.086	0.055	-1.553	0.120	+/- 10
	-0.026	0.03	-0.89	0.374	IK (+/- 16.546)
CEO overconfidence	-0.13413	0.19729	-0.6799	0.497	+/- 6
	-0.16149	0.1668	-0.9682	0.333	+/- 8
	-0.16156	0.14434	-1.1193	0.263	+/- 10
	-0.08261	0.10873	-0.7598	0.447	IK (+/- 16.269)
CEO overconfidence missing	0.112	0.111	1.017	0.309	+/- 6
	0.105	0.099	1.061	0.289	+/- 8
	0.115	0.089	1.288	0.198	+/- 10
	0.068	0.062	1.098	0.272	IK (+/- 17.334)
Deal risk	-0.019	0.082	-0.239	0.811	+/- 6
	-0.041	0.075	-0.545	0.586	+/- 8
	-0.036	0.069	-0.528	0.598	+/- 10
	-0.039	0.052	-0.750	0.453	IK (+/- 14.318)
Managerial ownership	0.013	0.010	1.252	0.211	+/- 6
	0.011	0.010	1.154	0.249	+/- 8
	0.006	0.009	0.702	0.483	+/- 10
	0.009	0.006	1.391	0.164	IK (+/- 18.07)
Discretionary accrual	-0.002	0.017	-0.108	0.914	+/- 6
	0.003	0.016	0.160	0.873	+/- 8
	0.005	0.015	0.357	0.721	+/- 10
	0.005	0.012	0.425	0.671	IK (+/- 15.58)
Total assets	245.020	1113.000	0.220	0.826	+/- 6
	393.080	1016.400	0.387	0.699	+/- 8
	421.480	926.760	0.455	0.649	+/- 10
	-57.713	712.070	-0.081	0.935	IK (+/- 12.36)
Market cap	660.450	1473.400	0.448	0.654	+/- 6
	481.260	1293.800	0.372	0.710	+/- 8
	539.340	1143.400	0.472	0.637	+/- 10
	519.280	1165.800	0.445	0.656	IK (+/- 10.03)
M/B	1.761	2.551	0.690	0.490	+/- 6
	2.140	2.366	0.905	0.366	+/- 8

	2.637	2.160	1.221	0.222	+/- 10
	2.920	1.837	1.589	0.112	IK (+/- 13.25)
Leverage	0.035	0.043	0.802	0.420	+/- 6
	0.013	0.036	0.356	0.722	+/- 8
	0.003	0.031	0.111	0.911	+/- 10
	-0.004	0.023	-0.172	0.863	IK (+/- 15.57)
Cash	0.046	0.051	0.890	0.373	+/- 6
	0.042	0.045	0.945	0.345	+/- 8
	0.044	0.039	1.115	0.265	+/- 10
	0.042	0.031	1.349	0.177	IK (+/- 15.05)
ROA	-0.126	0.098	-1.287	0.198	+/- 6
	-0.119	0.085	-1.406	0.160	+/- 8
	-0.108	0.075	-1.448	0.148	+/- 10
	-0.056	0.044	-1.269	0.205	IK (+/- 17.16)
Prior year return	-0.145	0.204	-0.714	0.475	+/- 6
	-0.143	0.172	-0.834	0.404	+/- 8
	-0.089	0.150	-0.597	0.551	+/- 10
	0.046	0.111	0.418	0.676	IK (+/- 15.37)
Deal value	78.768	295.870	0.266	0.790	+/- 6
	54.736	259.490	0.211	0.833	+/- 8
	72.494	230.020	0.315	0.753	+/- 10
	-3.201	149.720	-0.021	0.983	IK (+/- 18.27)
Relative size	0.023	0.189	0.120	0.905	+/- 6
	0.046	0.170	0.271	0.786	+/- 8
	0.102	0.155	0.661	0.509	+/- 10
	0.121	0.122	0.995	0.320	IK (+/- 17.15)
Diversifying	0.005	0.110	0.046	0.964	+/- 6
	-0.021	0.097	-0.218	0.828	+/- 8
	-0.033	0.087	-0.378	0.705	+/- 10
	-0.067	0.072	-0.924	0.355	IK (+/- 14.24)
Tender offer	0.024	0.043	0.557	0.578	+/- 6
	0.012	0.040	0.288	0.773	+/- 8
	0.004	0.037	0.118	0.906	+/- 10
	-0.005	0.022	-0.242	0.809	IK (+/- 19.9)
Private target	-0.140	0.117	-1.196	0.232	+/- 6
	-0.119	0.104	-1.138	0.255	+/- 8
	-0.118	0.095	-1.247	0.212	+/- 10
	-0.093	0.076	-1.212	0.226	IK (+/- 15.10)

Table 8. Shareholder voting and deal quality

This table presents the effect of shareholder voting on acquirer CAR3. The sample consists of 2,688 all-stock deals announced between 1995 and 2015 from the Thomson One Banker SDC database. Panel A presents summary statistics for the sample used in the RDD analysis based on the optimal bandwidth of Imbens and Kalyanaraman (IK, 2011). There are 974 deals to the left and 276 deals to the right of the 20% threshold. Panel B presents the treatment effect estimated by fitting a local linear regression using a triangular kernel to the left and right of the 20% threshold. The dependent variable is CAR3. Panel C reports OLS regressions of CAR3 using different subsamples with the percent of shares to be issued centered at the 20% threshold. For example, in column (1), deals with the percent of shares to be issued within 6% around the threshold are used in the regression. In columns (1) - (4), coefficients are estimated using the ordinary least squares regression. In column (5), coefficients are estimated using the weighted least squares regression where the weight is the inverse of an observation's distance to the 20% threshold (i.e., weight = 1/|% shares to be issued – 20%|. The variable of interest is the indicator variable, *Vote*, that takes the value of one if a deal has an all-stock payment with the percent of shares to be issued more than 20% of shares outstanding, and zero otherwise. The heteroskedasticity-consistent standard errors (in parentheses) account for possible correlation within a firm cluster. All variables are defined in Appendix A. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Summary statistics for the sample used in the RDD analysis

Variable	Mean	10^{th} percentile	Median	90^{th} percentile	Std Dev
CAR3	0.011	-0.088	-0.001	0.112	0.129
Institutional ownership	0.410	0.067	0.389	0.782	0.277
Total assets	4926.20	32.19	357.33	6088.31	28872.88
Market cap	3255.89	54.45	432.72	5245.48	17913.30
M/B	5.421	1.402	3.132	11.389	7.034
Leverage	0.078	0.000	0.030	0.233	0.102
Cash	0.150	0.013	0.066	0.410	0.183
ROA	-0.069	-0.382	0.012	0.118	0.297
Prior year return	0.119	-0.551	0.094	0.834	0.621
Deal value	456.36	7.48	55.95	704.09	2292.57
Relative size	0.462	0.017	0.157	1.058	0.984
Diversifying	0.306	0	0	1	0.461
Tender offer	0.011	0	0	0	0.105
Private target	0.558	0	1	1	0.497

Panel B: The RDD analysis using local linear regressions

Variable	Coef.	Std. Err.	z	P value	Bandwidth
CAR3	0.069**	0.032	2.144	0.032	+/- 6
CAR3	0.069**	0.028	2.461	0.014	+/- 8
CAR3	0.061**	0.025	2.460	0.014	+/- 10
CAR3	0.043**	0.019	2.270	0.023	IK (+/- 15.01)

Panel C: OLS/WLS regressions using different subsamples

	(1)	(2)	(3)	(4)	(5)
% shares to be issued	[14%, 26%]	[12%, 28%]	[10%, 30%]	[5%, 35%]	[5%, 35%]
Vote	0.029**	0.020*	0.018*	0.013	0.042***
	(0.013)	(0.011)	(0.010)	(0.008)	(0.010)

M/B	0.002	0.001	0.001	-0.000	0.001
	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
Leverage	-0.072	-0.087*	-0.072*	-0.051**	0.056
	(0.062)	(0.049)	(0.039)	(0.024)	(0.037)
Cash	-0.115**	-0.113***	-0.104***	-0.080***	-0.190***
	(0.045)	(0.041)	(0.033)	(0.025)	(0.027)
ROA	-0.011	-0.031	-0.041*	-0.038**	0.032**
	(0.028)	(0.027)	(0.024)	(0.017)	(0.014)
Prior year return	0.017	0.022**	0.016*	0.004	0.042***
	(0.012)	(0.011)	(0.009)	(0.007)	(0.008)
Log(Deal value)	-0.009**	-0.007**	-0.005*	-0.004*	-0.008**
	(0.004)	(0.003)	(0.003)	(0.002)	(0.003)
Relative size	-0.010	-0.010	-0.001	0.009	0.008
	(0.018)	(0.016)	(0.013)	(0.009)	(0.008)
Diversifying	0.010	-0.003	0.006	0.010	0.037***
	(0.017)	(0.015)	(0.012)	(0.008)	(0.010)
Tender offer	-0.067*	-0.084***	-0.079***	-0.042	-0.096**
	(0.034)	(0.028)	(0.028)	(0.030)	(0.044)
Private target	0.049***	0.042***	0.043***	0.038***	0.058***
	(0.013)	(0.010)	(0.009)	(0.007)	(0.011)
Constant	-0.018	-0.006	-0.022	-0.094***	-0.172
	(0.040)	(0.034)	(0.028)	(0.019)	(0.285)
Industry/Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	353	489	662	1,219	1,219
R-squared	0.294	0.243	0.236	0.155	0.580

Table 9: The treatment effect away from the threshold

This table presents the effect of shareholder voting on acquirer CAR3 using the method from Angrist and Rokkanen (2015). The sample consists of 2,131 all-stock deals with the percent of shares to be issued in the range between 0 to 40%. Panel A reports tests of the conditional independence assumption in which the dependent variable is acquirer CAR3. Panel B presents the generalized treatment effect in which the dependent variable is acquirer CAR3, weighted by propensity scores estimated from a logit regression in which the dependent variable is the indicator variable *Vote*, and the control variables are the same as those in Panel A columns (2) and (4). All variables are defined in Appendix A. Heteroskedasticity-consistent standard errors (in parentheses) are clustered at the acquirer level. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Tests of the conditional independence assumption

	(0, 20%)		[20%, 40%]	
	(1)	(2)	(3)	(4)
Percent of shares to be issued	-0.001*	-0.000	-0.003**	-0.002
	(0.000)	(0.000)	(0.002)	(0.001)
M/B		0.008***		0.006*
		(0.000)		(0.000)
Log(Deal value)		-0.002		-0.009*
		(0.002)		(0.005)
Diversifying		-0.000		0.059***
		(0.005)		(0.019)
Tender offer		-0.033		-0.004
		(0.025)		(0.111)
Private target		0.024***		0.088***
		(0.006)		(0.019)
Constant	0.014***	0.023***	0.110**	0.164***
	(0.004)	(0.006)	(0.046)	(0.048)
Observations	1,774	1,774	357	357
R-squared	0.002	0.027	0.013	0.151

Panel B: Treatment effects after propensity score weighting

	(1)	(2)	(3)
Vote	0.049***	0.081***	0.082***
	(0.018)	(0.018)	(0.019)
M/B		-0.001	-0.001
		(0.006)	(0.007)
Leverage		-0.034	-0.039
		(0.027)	(0.031)
Cash		-0.017	-0.006
		(0.028)	(0.031)
Log(Deal value)		-0.006**	-0.006**
		(0.002)	(0.003)
Relative size		0.014	0.013
		(0.011)	(0.011)

Diversifying		0.011	0.008
		(0.008)	(0.009)
Tender offer		-0.003	-0.012
		(0.032)	(0.036)
Private target		0.084***	0.082***
		(0.010)	(0.011)
Constant	0.007***	0.053***	-0.066***
	(0.003)	(0.011)	(0.022)
Industry/Year FEs	No	No	Yes
# of deals	2,131	2,131	2,131
R-squared	0.012	0.086	0.118

Table 10. The effect of shareholder voting: A quasi-natural experiment

This table presents the effect of shareholder voting on acquirer CAR3 during subsample periods when the pooling of interests accounting was allowed. According to the APB Opinion No. 16 Business Combinations effective since 1970, the only way to qualify for pooling accounting was to pay at least 90% of the consideration in stock. Panel A presents the treatment effect estimated using all-stock deals announced between 1995 and 1998 before the FASB announced a proposal to eliminate the pooling method on April 21, 1999. Panel B presents the treatment effect estimated using all-stock deals announced between 1995 and 2000 before the pooling method was eliminated on July 1, 2001. The treatment effect estimated by fitting a local linear regression using a triangular kernel to the left and right of the 20% threshold is reported. All variables are defined in Appendix A. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A: The RDD analysis using local linear regressions for the sample period 1995-1998

Variable	Coef.	Std. Err.	z	P value	Bandwidth
CAR3	0.038	0.029	1.318	0.187	+/- 6
CAR3	0.053**	0.026	2.027	0.043	+/- 8
CAR3	0.047**	0.024	2.000	0.045	+/- 10
CAR3	0.028**	0.014	1.958	0.050	IK (+/- 22.4)

Panel B: The RDD analysis using local linear regressions for the sample period 1995-2000

Variable	Coef.	Std. Err.	z	P value	Bandwidth
CAR3	0.086***	0.027	3.157	0.002	+/- 6
CAR3	0.084***	0.025	3.389	0.001	+/- 8
CAR3	0.071***	0.022	3.173	0.002	+/- 10
CAR3	0.035**	0.015	2.343	0.019	IK (+/- 19.15)

Table 11. Heterogeneity in the treatment effect on deal quality, overpayment, and post-merger operating performance

This table presents the treatment effect on deal quality, the extent of overpayment, and post-merger operating performance for acquirers with different levels of institutional ownership. Panel A compares the treatment effect on acquirer CAR3 between acquirers with high institutional ownership (i.e., above the sample median) and acquirers with low institutional ownership (i.e., below the sample median). Panel B compares the treatment effect on offer premium, computed following the definition in Schwert (1996) and Boone and Mulherin (2007), between acquirers with high and low institutional ownership. Panel C compares the treatment effect on acquirer post-merger operating performance, computed as the three-year average ROA (ROA3), between acquirers with high and low institutional ownership. All variables are defined in Appendix A. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Acquirers CAR3

	High institutional ownership				Low institutional ownership			
Variable	Coef.	Std. Err.	Z	Bandwidth	Coef.	Std. Err.	Z	Bandwidth
CAR3	0.088*	0.046	1.893	+/- 6	0.056	0.064	0.868	+/- 6
CAR3	0.098**	0.043	2.293	+/- 8	0.043	0.051	0.845	+/- 8
CAR3	0.097**	0.039	2.506	+/- 10	0.028	0.043	0.644	+/- 10
CAR3	0.089***	0.034	2.641	IK (+/- 12.63)	0.018	0.024	0.739	IK (+/- 19.71)

Panel B: Offer premium

	High institutional ownership				Low institutional ownership			
Variable	Coef.	Std. Err.	Z	Bandwidth	Coef.	Std. Err.	Z	Bandwidth
Offer premium	-0.381**	0.184	-2.074	+/- 6	-0.162	0.252	-0.643	+/- 6
Offer premium	-0.323**	0.157	-2.052	+/- 8	-0.058	0.227	-0.257	+/- 8
Offer premium	-0.259*	0.139	-1.863	+/- 10	-0.008	0.211	-0.039	+/- 10
Offer premium	-0.088	0.103	-0.853	IK (+/- 17.05)	0.041	0.147	0.278	IK (+/- 19.03)

Panel C: Acquirers post-merger operating performance

	High institutional ownership				Low institutional ownership			
Variable	Coef.	Std. Err.	Z	Bandwidth	Coef.	Std. Err.	Z	Bandwidth
ROA3	0.192**	0.081	2.391	+/- 6	-0.050	0.140	-0.355	+/- 6
ROA3	0.164**	0.068	2.434	+/- 8	-0.074	0.124	-0.595	+/- 8
ROA3	0.145**	0.058	2.503	+/- 10	-0.081	0.111	-0.733	+/- 10
ROA3	0.110**	0.048	2.315	IK (+/- 13.36)	-0.056	0.090	-0.621	IK (+/- 15.96)

Internet Appendix for
"Vote Avoidance and Shareholder Voting in Mergers and Acquisitions"

Appendix IA1.
Exchange listing rules regarding shareholder voting

1. Shareholder voting policy from the NYSE Listed Company Manual

Section 312.00 Shareholder Approval Policy

312.03 Shareholder Approval

(A) Shareholder approval is required for equity compensation plans.
(B) Shareholder approval is required prior to the issuance of common stock, or of securities convertible into or exercisable for common stock, in any transaction or series of related transactions, to:
    1. a director, officer or substantial security holder of the company (each a Related Party);
    2. a subsidiary, affiliate or other closely-related person of a Related Party; or
    3. any company or entity in which a Related Party has a substantial direct or indirect interest;

If the number of shares of common stock to be issued, or if the number of shares of common stock into which the securities may be convertible or exercisable, exceeds either one percent of the number of shares of common stock or one percent of the voting power outstanding before the issuance.

However, if the Related Party involved in the transaction is classified as such solely because such person is a substantial security holder, and if the issuance relates to a sale of stock for cash at a price at least as great as each of the book and market value of the issuers common stock, then shareholder approval will not be required unless the number of shares of common stock to be issued, or unless the number of shares of common stock into which the securities may be convertible or exercisable, exceeds either five percent of the number of shares of common stock or five percent of the voting power outstanding before the issuance.

(C) Shareholder approval is required prior to the issuance of common stock, or of securities convertible into or exercisable for common stock, in any transaction or series of related transactions if:
    1. the common stock has, or will have upon issuance, voting power equal to or in excess of 20 percent of the voting power outstanding before the issuance of such stock or of securities convertible into or exercisable for common stock; or
    2. the number of shares of common stock to be issued is, or will be upon issuance, equal to or in excess of 20 percent of the number of shares of common stock outstanding before the issuance of the common stock or of securities convertible into or exercisable for common stock.

However, shareholder approval will not be required for any such issuance involving:

- any public offering for cash;
- any bona fide private financing, if such financing involves a sale of:
  - common stock, for cash, at a price at least as great as each of the book and market value of the issuer's common stock; or
  - securities convertible into or exercisable for common stock, for cash, if the conversion or exercise price is at least as great as each of the book and market value of the issuer's common stock.

(D) Shareholder approval is required prior to an issuance that will result in a change of control of the issuer.

(E) Sections 312.03 (b), (c) and (d) shall not apply to issuances by limited partnerships.

Amended: December 31, 2015 (NYSE-2015-02).

312.04 For the Purpose of Section 312.03

For the purpose of Section 312.03:

(A) Shareholder approval is required if any of the subparagraphs of Section 312.03 require such approval, notwithstanding the fact that the transaction does not require approval under one or more of the other subparagraphs.
(B) Pursuant to Sections 312.03 (b) and (c), shareholder approval is required for the issuance of securities convertible into or exercisable for common stock if the stock that can be issued upon conversion or exercise exceeds the applicable percentages. This is the case even if such convertible or exchangeable securities are not to be listed on the Exchange.
(C) The Exchange's policy regarding the need to apply to list common stock reserved for issuance on the conversion or the exercise of other securities is described in Section 703.07.
(D) Only shares actually issued and outstanding (excluding treasury shares or shares held by a subsidiary) are to be used in making any calculation provided for in Sections 312.03 (b) and (c). Shares reserved for issuance upon conversion of securities or upon exercise of options or warrants will not be regarded as outstanding.
(E) An interest consisting of less than either five percent of the number of shares of common stock or five percent of the voting power outstanding of a company or entity shall not be considered a substantial interest or cause the holder of such an interest to be regarded as a substantial security holder.
(F) "Voting power outstanding" refers to the aggregate number of votes that may be cast by holders of those securities outstanding that entitle the holders thereof to vote generally on all matters submitted to the company's security holders for a vote.
(G) "Bona fide private financing" refers to a sale in which either:
  1. a registered broker-dealer purchases the securities from the issuer with a view to the

private sale of such securities to one or more purchasers; or

2. the issuer sells the securities to multiple purchasers, and no one such purchaser, or group of related purchasers, acquires, or has the right to acquire upon exercise or conversion of the securities, more than five percent of the shares of the issuer's common stock or more than five percent of the issuer's voting power before the sale.

(H) "Officer" has the same meaning as defined by the Securities and Exchange Commission in Rule 16a-1(f) under the Securities Exchange Act of 1934, or any successor rule.

(I) "Market value" of the issuer's common stock means the official closing price on the Exchange as reported to the Consolidated Tape immediately preceding the entering into of a binding agreement to issue the securities. For example, if the transaction is entered into after the close of the regular session at 4:00 pm Eastern Standard Time on a Tuesday, then Tuesday's official closing price is used. If the transaction is entered into at any time between the close of the regular session on Monday and the close if the regular session on Tuesday, then Monday's official closing price is used. Please note that an average price over a period of time is not acceptable as "market value" for purposes of Section 312.03.

(J) The issuance of shares from treasury is considered an issuance of shares for purposes of Section 312.03. (See Section 703.01, Part 1, of the Listed Company Manual regarding required notice to the Exchange of issuance of shares from treasury.)

(K) "Early Stage Company" means a company that has not reported revenues greater than $20 million in any two consecutive fiscal years since its incorporation and any Early Stage Company will lose that designation at any time after listing on the Exchange that it files an annual report with the SEC in which it reports two consecutive fiscal years in which it has revenues greater than $20 million in each year.

Amended: December 31, 2015 (NYSE-2015-02).

312.05 Exceptions

Exceptions may be made to the shareholder approval policy in Para. 312.03 upon application to the Exchange when (1) the delay in securing stockholder approval would seriously jeopardize the financial viability of the enterprise and (2) reliance by the company on this exception is expressly approved by the Audit Committee of the Board.

A company relying on this exception must mail to all shareholders not later than 10 days before issuance of the securities a letter alerting them to its omission to seek the shareholder approval that would otherwise be required under the policy of the Exchange and indicating that the Audit Committee of the Board has expressly approved the exception.

2. Shareholder voting policy from the AMEX Company Guide

Section 712. Acquisitions

Approval of shareholders is required in accordance with §705 as a prerequisite to approval of applications to list additional shares to be issued as sole or partial consideration for an acquisition of the stock or assets of another company in the following circumstances:

a. if any individual director, officer or substantial shareholder of the listed company has a 5% or greater interest (or such persons collectively have a 10% or greater interest), directly or indirectly, in the company or assets to be acquired or in the consideration to be paid in the transaction and the present or potential issuance of common stock, or securities convertible into common stock, could result in an increase in outstanding common shares of 5% or more; or

b. where the present or potential issuance of common stock, or securities convertible into common stock, could result in an increase in outstanding common shares of 20% or more.

NOTE: A series of closely related transactions may be regarded as one transaction for the purpose of this policy. Companies engaged in merger or acquisition discussions must be particularly mindful of the Exchange's timely disclosure policies. In view of possible market sensitivity and the importance of providing investors with sufficient information relative to an intended merger or acquisition, listed company representatives are strongly urged to consult with the Exchange in advance of such disclosure.

Amended: November 25, 2002 (Amex-2002-87).

3. Shareholder voting policy from the NASDAQ Manual: Marketplace Rules

Section 4350 Qualitative Listing Requirements for NASDAQ National Market and NASDAQ SmallCap Market Issuers Except for Limited Partnerships.

(i) Shareholder Approval

(1) Each issuer shall require shareholder approval or prior to the issuance of securities under subparagraph (A), (B), (C), or (D) below:

…

(C) in connection with the acquisition of the stock or assets of another company if:

(i) any director, officer or substantial shareholder of the issuer has a 5% or greater interest (or such persons collectively have a 10% or greater interest), directly or indirectly, in the company or assets to be acquired or in the consideration to be paid in the transaction or series of related transactions and the present or potential issuance of common stock, or securities convertible into or exercisable for common stock, could result in an increase in outstanding common shares or voting power of 5% or more; or
(ii) where, due to the present or potential issuance of common stock, or securities convertible into or exercisable for common stock, other than a public offering for cash:

a. the common stock has or will have upon issuance voting power equal to or in excess of 20% of the voting power outstanding before the issuance of stock or securities convertible into or exercisable for common stock; or

b. the number of shares of common stock to be issued is or will be equal to or in excess of 20% of the number of shares or common stock outstanding before the issuance of the stock or securities; or

…

(2) Exceptions may be made upon application to Nasdaq when:

(A) the delay in securing stockholder approval would seriously jeopardize the financial viability of the enterprise; and

(B) reliance by the company on this exception is expressly approved by the audit committee or a comparable body of the board of directors.

A company relying on this exception must mail to all shareholders not later than ten days before issuance of the securities a letter alerting them to its omission to seek the shareholder approval that would otherwise be required and indicating that the audit committee or a comparable body of the board of directors has expressly approved the exception.

Amended: March 25, 2003.

Appendix IA2.
An example of joint proxy statement/prospectus

FORM S-4

DATA PROCESSING RESOURCES CORPORATION

Dear Shareholder:

You are cordially invited to attend a Special Meeting of Shareholders of Data Processing Resources Corporation, a California corporation ("DPRC"), at The Sutton Place Hotel located at 4500 MacArthur Boulevard, Newport Beach, California 92660 on [,] 1998, at [ ], local time (the "DPRC Special Meeting").

On June 16, 1998, DPRC and DPRC Acquisition Corp., a North Carolina corporation and wholly owned subsidiary of DPRC ("Acquisition Corp."), entered into an Agreement and Plan of Merger, dated June 16, 1998, by and among DPRC, Acquisition Corp., Systems & Programming Consultants, Inc., a North Carolina corporation ("SPC"), and certain shareholders of SPC (the "Merger Agreement").

Pursuant to and subject to the terms and conditions of the Merger Agreement, Acquisition Corp will be merged with and into SPC (the "Merger") and each outstanding share of SPC common stock will be converted into shares of DPRC common stock ("DPRC Common Stock") in accordance with an exchange ratio (the "Exchange Ratio") based on the total consideration to be delivered with respect to the Merger. In connection with the Merger, DPRC will assume SPC's existing stock option plan. Following the Merger, SPC will be a wholly owned subsidiary of DPRC.

The aggregate consideration to be delivered in connection with the Merger will be paid exclusively in shares of DPRC Common Stock valued at $87.5 million less deductions for certain costs and liabilities to be assumed by DPRC (the "Merger Consideration"). The total number of shares of DPRC Common Stock anticipated to be issued in connection with the Merger is estimated to be between 2.7 million and 3.0 million (the "Share Issuance"). Of such number of shares, approximately two-thirds are expected to be issued upon consummation of the Merger in exchange for the outstanding shares of SPC common stock and for the cancellation of the SPC performance stock options and the remaining number of shares, approximately one-third, will be issued from time to time thereafter upon exercise of the remaining SPC stock options under the stock option plan which is being assumed by DPRC in the Merger.

At the DPRC Special Meeting, you will be asked to approve (i) the Merger Agreement, (ii) the Share Issuance, (iii) an amendment to DPRC's Articles of Incorporation to increase the number of authorized shares of DPRC Common Stock from 20.0 million shares to 60.0 million shares (the "Charter Amendment") and (iv) an amendment to DPRC's 1994 Stock Option Plan to increase the number of shares of DPRC Common Stock reserved for issuance upon exercise of

stock options granted thereunder from 2.0 million shares to 3.0 million shares (the "Option Plan Amendment").

FOR THE REASONS SET FORTH IN THE ACCOMPANYING PROXY STATEMENT/PROSPECTUS, THE DPRC BOARD OF DIRECTORS (THE "BOARD") UNANIMOUSLY BELIEVES THAT THE MERGER, THE SHARE ISSUANCE, THE CHARTER AMENDMENT AND THE OPTION PLAN AMENDMENT ARE IN THE BEST INTERESTS OF THE SHAREHOLDERS OF DPRC AND, ACCORDINGLY, UNANIMOUSLY RECOMMENDS THAT DPRC'S SHAREHOLDERS VOTE IN FAVOR OF APPROVAL AND ADOPTION OF SUCH PROPOSALS.

In making its determination as to the fairness of the Merger Consideration, the DPRC Board received and considered materials prepared by NationsBanc Montgomery Securities LLC ("NMS") which evaluated the Merger Consideration to be paid from a financial point of view. The analysis reflected in these materials was summarized in a written opinion by NMS dated June 15, 1998 and confirmed in a letter dated June 16, 1998 (collectively, the "NMS Opinion"). A copy of the complete NMS Opinion, including the assumptions, qualifications and other matters contained therein, is included in the accompanying Proxy Statement/Prospectus as Annex B.

Consummation of the Merger is subject to certain conditions, including the approval of the Merger by the shareholders of both DPRC and SPC.

The enclosed Notice and Proxy Statement/Prospectus contain details concerning the Merger, the Share Issuance, the Charter Amendment and the Option Plan Amendment. We urge you to read and consider these documents carefully. Whether or not you plan to attend the DPRC Special Meeting, please be sure to sign, date and return the enclosed proxy card in the enclosed, postage-paid envelope as promptly as possible so that your shares may be represented at the DPRC Special Meeting and voted in accordance with your wishes. It is important that your shares be represented at the DPRC Special Meeting. Your vote is important regardless of the number of shares you own.

Sincerely,

Mary Ellen Weaver
Chairman and Chief Executive

Appendix IA3.
Our data collection process

With the RDD, it is important to have accurate data on the running variable, which according to the Exchange listing requirement (see Appendix IA1) is "the percent of new shares a firm ***intends*** to issue." For our purpose, the running variable is computed as the number of new shares to be issued divided by the number of shares outstanding one day prior to the merger announcement.[1]

We started our data collection using a sample of deals in which equity issuance was involved. We collected information on the running variable from the following sources:

1. S-4 was the main source to identify "the amount to be registered," which represents the estimated maximum number of shares to be issued by the acquirer in connection with the deal.
2. 8-K was used when we were unable to locate S-4. For example, in the case of private placement, registration may be exempted. Typically, 8-K states, "We intend to issue XXX number of shares" or "The maximum number of shares to be issued is approximately XXX."[1]
3. Occasionally, acquirers only reported the fixed exchange ratio. In this case, we used the fixed ratio times the target's number of shares outstanding (diluted) to calculate the acquirer's number of shares to be issued.
4. Occasionally, acquirers reported the deal value and the portion of the deal financed by stock. For example, RCM Technologies, Inc., a leading provider of business and technology solutions, announced on August 21, 2007, that it had made a proposal to acquire all of the outstanding common stock of Computer Task Group, Inc. in a total equity value of approximately $105 million. The offer was structured as 50% cash and 50% RCM stock. In this case, we used 50% of the deal value divided by the acquirer's share price the day prior to the announcement to calculate the number of shares to be issued.
5. Occasionally, acquirers would announce that after the completion of the merger, the target firm would own approximately XXX% of the combined company. For example, in the deal between Nexstar Broadcasting Group, Inc. and Media General, Inc. (announced on September 28, 2015), 8-K stated, "Media General shareholders would own approximately 26% of the combined company." In this case, we used the following formula: the number of new shares to be issued by the acquirer / (the acquirer's number of shares outstanding (31.616 million) + the number of new shares to be issued by the acquirer) = 26%, to obtain the number of new shares to be issued by the acquirer (11.108

[1] For three-quarters of stock deals involving public targets, we note that the running variable that we collected via various SEC disclosures is higher than the percent of new shares actually issued as reported by SDC, suggesting that acquirers are more likely to register more shares than they actually need, and that using the number reported by SDC will under-estimate the frequency of deals requiring shareholder voting.

million), and divided by the acquirer's number of shares outstanding on the day prior to the merger announcement (i.e., day -1) to obtain the running variable (i.e., 35%).

We further removed (175) deals in which the running variable exceeded 100% because, in these cases, the acquirer was *de facto* the target after consummation of the deal. We also removed (67) deals in which the running variable was less than 20% but shareholder approval was required[2, 3] and (47) deals in which the running variable was more than 20% but shareholder approval was not required because the acquirers had requested exemption from the exchange.[4, 5]

Finally, we manually verified whether acquirer shareholder voting was required by searching SEC filings including S-4, 8-K, S-4/A, DEFM 14, DEFM 14/A, DEF 14A, DEFS14A, PRES14A, PRER14A, 425, 10-K, and 10-Q.

[2] The corporate laws of Alaska, District of Columbia, Louisiana, Missouri, and New York over our sample period required all mergers to be approved by shareholders of both firms. Relatedly, some other states have their corporate laws using different thresholds for requiring acquirer shareholder approval; see, for example, California (the 1/6 rule), Ohio (the 1/6 rule), and New Jersey (the 40% rule). We checked and found that most of the acquirers in those states issuing less than 20% of new shares did not require their shareholder approval. This suggests that even for firms incorporated in states with different requirements for acquirer shareholder approval, the listing rules prevails. Importantly, 61% of all-stock deals are made by acquirers incorporated in the state of Delaware whose corporate law uses the same 20% rule.

[3] Further, the NASDAQ may aggregate multiple issuances (with each issuing less than 20% of the shares outstanding) for the purpose of the 20% rule based on the timing of these issuances and circumstances such as the commonality of investors and the use of proceeds, leading to a few more cases where the running variable is less than 20% but shareholder approval is required.

[4] For example, we noted that in a few short-form merger deals in which acquirers had a small number of insiders with highly concentrated ownership, the acquirers requested an exemption, as they also did in a few cases in which waiting for shareholder approval could result in the acquirer's financial demise. In the latter cases, the acquirers requested "financial viability" exemptions.

[5] These two cases account for 2% of the sample. It is worth noting that when we apply a fuzzy RD analysis to include these deals in the sample, our main findings remain unchanged.

Appendix IA4.
An example of the merger negotiation process

Acquirer: Adobe Systems Inc.
Target: Macromedia.
Link to the SEC filings at:
http://www.sec.gov/Archives/edgar/data/796343/000104746905018172/a2160070zs-4.htm

Manner and basis of converting shares
If you are a Macromedia stockholder, you will receive 1.38 shares of Adobe common stock in exchange for each share of Macromedia common stock you own. The exchange ratio is fixed and, regardless of fluctuations in the market price of Adobe's or Macromedia's common stock, will not change between now and the date the merger is consummated, subject to any adjustments for changes in the number of outstanding shares of Adobe or Macromedia by reason of future stock splits, division of shares, stock dividends or other similar transactions.

Key developments of the merger

September 2004, Bruce R. Chizen, Adobe's CEO and Robert K. Burgess, Macromedia's CEO discussed the possibility of a business combination involving the two companies.

January 11, 2005, the Adobe board of directors held a meeting at which Adobe management made a presentation regarding the possible strategic fit between Macromedia and Adobe.

January 21, 2005, the Adobe board approved initiating discussions with Macromedia regarding a potential business combination and working with Goldman Sachs, as Adobe's financial advisor.

January 28 to February 9, 2005, representatives of Adobe and Macromedia held telephone conferences to negotiate the terms of a nondisclosure agreement and establish the procedures for preliminary financial due diligence.

February 19, 2005, at a meeting of the Adobe board of directors, Goldman Sachs presented a financial analysis relating to the potential business combination. At that meeting, the board authorized Adobe to present a proposal to Macromedia for a potential business combination.

February 22, 2005, Goldman Sachs orally delivered a proposal by Adobe regarding a potential business combination to Morgan Stanley, the financial advisor of Macromedia.

February 23, 2005, the Macromedia board of directors reviewed the status of the discussions with Adobe, including the proposal presented by Adobe. The Macromedia board determined that the proposal made by Adobe was not sufficiently attractive to warrant further consideration.

March 28, 2005, Representatives of Adobe and Goldman Sachs contacted representatives of Morgan Stanley to communicate a new proposal for the potential business combination.

April 2 to April 17, 2005, Representatives of Adobe and Macromedia met numerous times to discuss the potential business combination. During this period, representatives of Macromedia and its advisors engage in due diligence discussions regarding Adobe.

April 5, 2005, Adobe delivered a draft of the merger agreement to Macromedia.

April 8, 2005, Macromedia delivered proposed revisions to the draft merger agreement to Adobe.

April 10 to April 17, 2005, Adobe and Macromedia negotiated the terms of the merger agreement.

April 16, 2005, the Adobe board of directors reviewed the proposed business combination with Macromedia, and determined to propose an exchange ratio of 1.38 shares of Adobe common stock for each share of Macromedia common stock.

April 17, 2005, the Adobe board of directors held a meeting at which the proposed merger was discussed and considered. Goldman Sachs reviewed the financial terms of the proposed merger and delivered its fairness opinion as of the same date, that, as of April 17, 2005 and based on and subject to the factors and assumptions set forth in its opinion, the exchange ratio of 1.38 shares of Adobe common stock to be issued in exchange for each share of Macromedia common stock pursuant to the merger agreement was fair to Adobe from a financial point of view.

April 17, 2005, the Macromedia board of directors reviewed the update on the Adobe board of directors' authorization of the proposed exchange ratio of 1.38 shares of Adobe common stock for each share of Macromedia common stock.

April 17, 2005, the Adobe board of directors unanimously approved the merger and related matters. Following the meetings of Adobe's and Macromedia's respective boards of directors, the parties signed the merger agreement.

April 18, 2005, the signing of the merger agreement was publicly announced prior to the opening of the NASDAQ National Market.

Table IA1.
Controlling for passive investors

This table replicates the vote avoidance analysis in Table 4 by additionally controlling for passive ownership. Passive mutual fund investors are identified following Appel, Gormley, and Keim (2016). Panel A presents the summary statistics of institutional ownership, non-passive ownership (i.e., the difference between institutional and passive ownership), and passive ownership. Panel B presents regression results controlling for non-passive ownership and passive ownership. The heteroskedasticity-consistent standard errors (in parentheses) account for possible correlation within a firm cluster. All other variables are defined in Appendix A. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Summary statistics

Variable	Mean	10^{th} percentile	Median	90^{th} percentile	Std Dev
Institutional ownership	0.428	0.064	0.415	0.814	0.279
Non-passive ownership	0.404	0.055	0.400	0.790	0.274
Passive ownership	0.024	0.001	0.007	0.071	0.038

Panel B: Controlling for passive ownership

	(1)	(2)	(3)	(4)	(5)
% shares to be issued	[14%, 26%]	[12%, 28%]	[10%, 30%]	[5%, 35%]	[5%, 35%]
Non-passive ownership	-0.347**	-0.300**	-0.242**	-0.096	-0.513***
	(0.145)	(0.118)	(0.107)	(0.086)	(0.070)
Passive ownership	-1.391	-1.524	-1.276	-1.896***	-1.519***
	(1.371)	(1.204)	(0.957)	(0.548)	(0.569)
Agency	0.984***	0.853***	0.558**	0.617***	1.436***
	(0.309)	(0.264)	(0.275)	(0.199)	(0.132)
CEO overconfidence	0.201	0.212**	0.151*	0.108*	0.151**
	(0.122)	(0.098)	(0.077)	(0.065)	(0.063)
CEO overconfidence missing	0.116	0.175	-0.014	0.054	-0.149
	(0.195)	(0.175)	(0.110)	(0.110)	(0.098)
Deal risk	0.065	0.082	0.114*	0.092*	0.162***
	(0.097)	(0.081)	(0.066)	(0.053)	(0.051)
Other controls	Yes	Yes	Yes	Yes	Yes
Industry/Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	228	301	363	513	513
R-squared	0.526	0.505	0.466	0.447	0.770

Table IA2.
Controlling for cross-ownership

This table replicates the vote avoidance analysis in Table 4 by removing ownership by cross-holders. We measure cross-ownership as the sum of institutional ownership by the top ten acquirer shareholders with at least 1% ownership in the target firm following Harford, Jenter, and Li (2011). Panel A presents the summary statistics of cross-ownership, and institutional ownership excluding cross-owners. Panel B presents regression results using institutional ownership excluding cross-owners. The heteroskedasticity-consistent standard errors (in parentheses) account for possible correlation within a firm cluster. All other variables are defined in Appendix A. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Summary statistics

Variable	Mean	10th percentile	Median	90th percentile	Std Dev
Cross-ownership	0.020	0.000	0.000	0.077	0.053
Institutional ownership excluding cross-owners	0.408	0.063	0.391	0.788	0.266

Panel B: Removing cross-owners

	(1)	(2)	(3)	(4)	(5)
% shares to be issued	[14%, 26%]	[12%, 28%]	[10%, 30%]	[5%, 35%]	[5%, 35%]
Institutional ownership excluding cross-owners	-0.331**	-0.321***	-0.235**	-0.103	-0.622***
	(0.146)	(0.113)	(0.102)	(0.086)	(0.079)
Agency	1.012***	0.806***	0.579**	0.641***	1.402***
	(0.314)	(0.264)	(0.267)	(0.194)	(0.141)
CEO overconfidence	0.200*	0.196**	0.155**	0.108*	0.115
	(0.118)	(0.095)	(0.077)	(0.065)	(0.073)
CEO overconfidence missing	0.121	0.032	-0.017	0.053	-0.138
	(0.190)	(0.158)	(0.111)	(0.110)	(0.107)
Deal risk	0.048	0.077	0.105	0.090*	0.049
	(0.089)	(0.073)	(0.065)	(0.052)	(0.060)
Other controls	Yes	Yes	Yes	Yes	Yes
Industry/Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	228	301	363	513	513
R-squared	0.521	0.498	0.462	0.436	0.798

Table IA3.
Controlling for voting agreements

This table replicates the vote avoidance analysis in Table 4 by removing ownership of institutional investors with a voting agreement with the acquirer. Panel A presents the summary statistics of voting agreement indicator, voting agreement with directors and officers indicator, voting agreement with institutional investors indicator, ownership of directors and officers with a voting agreement, ownership of institutional investors with a voting agreement, institutional ownership, and revised institutional ownership after removing the ownership of institutional investors with a voting agreement for the all-stock deal sample. Panel B presents regression results using the revised institutional ownership. The heteroskedasticity-consistent standard errors (in parentheses) account for possible correlation within a firm cluster. All other variables are defined in Appendix A. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Summary statistics

Variable	N	Mean	10th percentile	Median	90th percentile	Std Dev
Voting agreement indicator	44	0.165	0	0	1	0.372
Voting agreement with directors and officers indicator	40	0.150	0	0	1	0.358
Voting agreement with institutional investors indicator	6	0.022	0	0	0	0.148
Ownership by directors and officers with a voting agreement	40	0.210	0.019	0.167	0.429	0.179
Ownership by institutional investors with a voting agreement	6	0.394	0.289	0.317	0.740	0.175
Institutional ownership	267	0.394	0.062	0.397	0.720	0.261
Revised institutional ownership	267	0.378	0.032	0.380	0.720	0.268

Panel B: Removing institutional investors with voting agreements

	(1)	(2)	(3)	(4)	(5)
% shares to be issued	[14%, 26%]	[12%, 28%]	[10%, 30%]	[5%, 35%]	[5%, 35%]
Revised institutional ownership	-0.352**	-0.319***	-0.241**	-0.116	-0.628***
	(0.144)	(0.113)	(0.102)	(0.085)	(0.078)
Agency	1.015***	0.806***	0.581**	0.646***	1.406***
	(0.314)	(0.264)	(0.267)	(0.193)	(0.141)
CEO overconfidence	0.203*	0.195**	0.155**	0.109*	0.108
	(0.118)	(0.094)	(0.077)	(0.065)	(0.073)
CEO overconfidence missing	0.120	0.027	-0.018	0.052	-0.157
	(0.190)	(0.158)	(0.111)	(0.110)	(0.107)
Deal risk	0.070	0.095	0.118*	0.096*	0.082
	(0.090)	(0.075)	(0.066)	(0.053)	(0.061)
Other controls	Yes	Yes	Yes	Yes	Yes
Industry/Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	228	301	363	513	513
R-squared	0.523	0.498	0.463	0.437	0.799

Table IA4.
Controlling for past voting support

This table replicates the vote avoidance analysis in Table 4 by controlling for past voting support for management proposals. We use shareholder voting results in support of management proposals from the Institutional Shareholder Services Voting Analytics (ISSVA) database starting from 2003, and compute *Vote for* as the ratio of the number of votes for management proposals over the sum of the number of votes for and the number of votes against in the year prior to the merger announcement. Due to limited data coverage over the first half of our sample period, we also introduce an indicator variable, *Vote for missing*, that takes the value of one if voting data are missing, and zero otherwise. Panel A presents summary statistics of the two vote variables. Panel B presents regression results controlling for the two vote variables. The heteroskedasticity-consistent standard errors (in parentheses) account for possible correlation within a firm cluster. All other variables are defined in Appendix A. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Summary statistics

Variable	Mean	10^{th} percentile	Median	90^{th} percentile	Std Dev
Vote for	0.846	0.784	0.895	0.991	0.171
Vote for missing	0.750	0	1	1	0.427

Panel B: Regression using the revised institutional ownership.

	(1)	(2)	(3)	(4)	(5)
% shares to be issued	[14%, 26%]	[12%, 28%]	[10%, 30%]	[5%, 35%]	[5%, 35%]
Institutional ownership	-0.406**	-0.365***	-0.282**	-0.153*	-0.678***
	(0.170)	(0.122)	(0.111)	(0.090)	(0.079)
Agency	0.974***	0.726***	0.530*	0.611***	1.440***
	(0.334)	(0.259)	(0.273)	(0.195)	(0.142)
CEO overconfidence	0.209*	0.192**	0.151*	0.108*	0.118
	(0.118)	(0.095)	(0.077)	(0.065)	(0.072)
CEO overconfidence missing	0.119	0.021	-0.018	0.048	-0.137
	(0.189)	(0.159)	(0.110)	(0.110)	(0.106)
Deal risk	0.068	0.088	0.113*	0.091*	0.076
	(0.090)	(0.080)	(0.066)	(0.053)	(0.060)
Vote for	-0.502	-1.050	-0.727	-0.566	-0.546
	(0.750)	(0.730)	(0.581)	(0.552)	(0.680)
Vote for missing	-0.585	-1.072	-0.766	-0.625	-0.763
	(0.696)	(0.686)	(0.544)	(0.514)	(0.639)
Other controls	Yes	Yes	Yes	Yes	Yes
Industry/Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	228	301	363	513	513
R-squared	0.526	0.504	0.467	0.440	0.804

Table IA5.
Media and analyst coverage around merger announcement

This table examines the change in media/analyst coverage around the merger announcement between acquirers who avoided shareholder voting and acquirers who had shareholder voting. Panel A reports the change in media coverage. Percentage change in media coverage is the difference in daily average media coverage from before to after the merger announcement divided by the daily average media coverage before the announcement. Media coverage before the announcement is the number of news articles on a firm covered by the top four national newspapers (i.e., New York Times (NYT), USA Today (USAT), Wall Street Journal (WSJ), and Washington Post (WP)) and by Dow Jones Newswires (DJNW) in the three-month period ending three months before the merger announcement. We end the pre-merger period at three months before the merger announcement because Ahern and Sosyura (2014) find that acquirers in stock mergers tend to manipulate media coverage in this period. Media coverage after the announcement is the number of news articles on a firm in the period between announcement and deal completion/withdrawn. Panel B reports the change in analyst coverage. Percentage change in analyst coverage is the difference in monthly average analyst coverage from before to after the merger announcement divided by the monthly average analyst coverage before the announcement. Analyst coverage before the announcement is the number of analysts following a firm reported by the Institutional Brokers Estimate System (I/B/E/S) in the six-month period prior to the merger announcement. Analyst coverage after the announcement is the number of analysts following a firm in the period between announcement and deal completion/withdrawn. The last two columns present the tests of differences in means and medians between the two subsamples. All variables are defined in Appendix A. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Change in media coverage

	Vote avoidance = 1			Vote avoidance = 0			Test of difference	
Variable	Mean	Median	Std Dev	Mean	Median	Std Dev	t-test	Wilcoxon test
	(1)	(2)	(3)	(4)	(5)	(6)	(1) - (4)	(2) - (5)
% Change in average daily media coverage (NYT + USAT + WSJ + WP + DJNS)								
[14%, 26%]	1.364	1.082	1.536	1.239	0.836	1.276	0.125	0.246
[12%, 28%]	1.393	1.093	1.554	1.142	0.716	1.273	0.251	0.377
[10%, 30%]	1.454	1.291	1.505	1.184	0.776	1.324	0.271	0.515
[5%, 35%]	1.378	1.214	1.507	1.266	0.853	1.356	0.112	0.361

Panel B: Change in analyst coverage

	Vote avoidance = 1			Vote avoidance = 0			Test of difference	
Variable	Mean	Median	Std Dev	Mean	Median	Std Dev	t-test	Wilcoxon test
	(1)	(2)	(3)	(4)	(5)	(6)	(1) - (4)	(2) - (5)
% Change in analyst coverage								
[14%, 26%]	-0.014	0.000	0.178	0.043	0.000	0.174	-0.057**	0**
[12%, 28%]	0.005	0.000	0.211	0.049	0.000	0.198	-0.043*	0*
[10%, 30%]	0.006	0.000	0.200	0.041	0.000	0.190	-0.035	0
[5%, 35%]	0.022	0.000	0.198	0.034	0.000	0.180	-0.011	0

Table IA6.
Robustness checks

This table conducts a number of robustness checks on our main findings in Table 8 Panel B. Panel A presents the treatment effect estimated by fitting a quadratic polynomial model using a triangular kernel to the left and right of the 20% threshold. Panel B presents the treatment effect using acquirer residual CAR3, which is obtained by regressing acquirer CAR3 on firm and deal characteristics (as listed in Table 8), and industry and year fixed effects. Panels C and D present the treatment effect using a pseudo threshold of 15% and 25% share issuance, respectively. All variables are defined in Appendix A. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Panel A: The RDD analysis using quadratic polynomial models

Variable	Coef.	Std. Err.	z	P value	Bandwidth
CAR3	0.068	0.050	1.379	0.168	+/- 6
CAR3	0.072*	0.042	1.725	0.085	+/- 8
CAR3	0.078**	0.036	2.140	0.033	+/- 10
CAR3	0.049**	0.021	2.372	0.018	IK (+/- 17.65)

Panel B: The RDD analysis using local linear regressions: acquirer residual CAR3

Variable	Coef.	Std. Err.	z	P value	Bandwidth
CAR3	0.077***	0.030	2.595	0.009	+/- 6
CAR3	0.076***	0.026	2.976	0.003	+/- 8
CAR3	0.068***	0.023	3.033	0.002	+/- 10
CAR3	0.054***	0.018	2.996	0.003	IK (+/- 13.54)

Panel C: The pseudo threshold is 15% of shares to be issued

Variable	Coef.	Std. Err.	z	P value	Bandwidth
CAR3	-0.012	0.017	-0.712	0.477	+/- 6
CAR3	-0.014	0.016	-0.898	0.369	+/- 8
CAR3	-0.015	0.014	-1.098	0.272	+/- 10
CAR3	-0.010	0.012	-0.857	0.391	IK (+/- 13.71)

Panel D: The pseudo threshold is 25% of shares to be issued

Variable	Coef.	Std. Err.	z	P value	Bandwidth
CAR3	-0.025	0.024	-1.064	0.287	+/- 6
CAR3	-0.031	0.021	-1.464	0.143	+/- 8
CAR3	-0.032	0.020	-1.608	0.108	+/- 10
CAR3	-0.008	0.012	-0.628	0.530	IK (+/- 19.53)

Table IA7.
Firm and deal characteristics of the RD sample and all-stock deal sample

This table compares firm and deal characteristics of the RD sample (Table 8, with the percent of shares to be issued within the bandwidth of [5%, 35%]) and the all-stock deal sample. The last two columns present the tests of differences in means and medians between the two samples. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively. Definitions of all variables are provided in Appendix A.

	The RD sample (N = 1,250)			The all-stock sample (N = 2,688)			Test of difference	
Variable	Mean	Median	Std Dev	Mean	Median	Std Dev	t-test	Wilcoxon test
	(1)	(2)	(3)	(4)	(5)	(6)	(1) - (4)	(2) - (5)
Institutional ownership	0.410	0.389	0.277	0.437	0.428	0.282	-0.026**	-0.039***
Total assets	4926.20	357.33	28872.88	5273.90	354.90	36156.54	-347.70	2.427
Market cap	3255.89	432.72	17913.30	6491.27	548.41	29174.27	-3235.38***	-115.68***
M/B	5.421	3.132	7.034	6.146	3.415	7.955	-0.725**	-0.283**
Leverage	0.078	0.030	0.102	0.082	0.035	0.096	-0.004	-0.005
Cash	0.150	0.066	0.183	0.157	0.081	0.182	-0.007	-0.014*
ROA	-0.069	0.012	0.297	-0.058	0.014	0.282	-0.012	-0.002*
Prior year return	0.119	0.094	0.621	0.135	0.109	0.641	-0.016	-0.015
Deal value	456.36	55.95	2292.57	791.19	55.87	4933.76	-334.82*	0.08
Relative size	0.462	0.157	0.984	0.445	0.128	0.851	-0.017	0.029
Diversifying	0.306	0	0.461	0.333	0	0.471	-0.027*	0*
Tender offer	0.011	0	0.105	0.008	0	0.088	0.003	0
Private target	0.558	1	0.497	0.573	1	0.495	-0.016	0

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