

Vote Avoidance and Shareholder Voting in Mergers and Acquisitions

Finance Working Paper N° 481/2016

January 2018

Kai Li

University of British Columbia and CAFR

Tingting Liu

Creighton University

Juan (Julie) Wu

University of Nebraska - Lincoln

© Kai Li, Tingting Liu and Juan (Julie) Wu 2018. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

This paper can be downloaded without charge from:
http://ssrn.com/abstract_id=2801580

www.ecgi.org/wp

ECGI Working Paper Series in Finance

Vote Avoidance and Shareholder Voting in Mergers and Acquisitions

Working Paper N° 481/2016

January 2018

Kai Li
Tingting Liu
Juan (Julie) Wu

We are grateful for helpful comments from the editor Dave Denis, two anonymous referees, Vikas Agarwal, David Becher, Marco Becht, Antje Berndt, Christa Bouwman, Tolga Caskurlu, Ling Cen, Mark Chen, Vicente Cuiat, Rui Dai, Alex Edmans, Joseph Fan, Yianni Floros, Stu Gillan, Mireia Gine, Todd Gormley, Daniel Greene, Yaniv Grinstein, Jarrad Harford, Iftekhar Hasan, Jack He, Zhaozhao He, Rob Heinkel, David Hirshleifer, Jerry Hoberg, Maggie Hu, Chong Huang, Ioanuis Ioannou, Dirk Jenter, Wei Jiang, Torsten Jochem, Boochun Jung, Omeshi Kini, Adam Kolasinski, Karthik Krishnan, Mattia Landoni, TC Lin, Jim Linck, Guangli Lu, Andrey Malenko, Nadya Malenko, Katya Malinova, Ron Masulis, Ernst Maug, Harold Mulherin, Jeff Netter, Micah Officer, Teodora Paligorova, Brad Paye, Gordon Phillips, Annette Poulsen, David Reeb, Luc Renneboog, Miikka Rokkanen, Marco Rossi, Lukas Roth, Chris Schwarz, Arjen Siegmans, Denis Sosyura, Aris Stouraitis, Sudi Sudarsanam, Alex Vadilyev, Kumar Venkataraman, Rajesh Vijayaraghavan, Richard Walton, Moqi Xu, Takeshi Yamada, Xueting Zhang, Jian Zhou, seminar participants at Australian National University, Fordham University, Georgia State University, Goethe University, Iowa State University, Queensland University of Technology, Southern Methodist University, Texas A&M University, Tilburg University, Tinbergen Institute, University of California Irvine, University of Georgia, University of Hawaii, University of Mannheim, University of Queensland, University of Texas at Dallas, and University of Toronto, and conference participants at the Glasgow-Nankai Finance Workshop (Glasgow), the Conference on Corporate Bonds (Strasbourg), the Workshop on Executive Compensation and Corporate Governance (Rotterdam), the International Corporate Governance Conference (Hong Kong), the FMA Asia Pacific Conference (Sydney), the First Annual Cass Mergers and Acquisitions Research Centre Conference (London), the Northern Finance Association Meetings (Mont-Tremblant), the Financial Management Association Meetings (Las Vegas), the American Finance Association Meetings (Chicago), the FMA Asia Pacific Conference (Taipei), and the China International Conference in Finance (Hangzhou). We thank Stone Chen, Guangli Lu, Jinfei Sheng, Iris Wang, Ting Xu, and Ming Yuan for research assistance, and Huasheng Gao and Tina Yang for providing data on boards. Li acknowledges financial support from the Social Sciences and Humanities Research Council of Canada (SSHRC Grant Number: 435-2013-0023) and the Sauder School of Business Bureau of Asset Management. All errors are our own.

© Kai Li, Tingting Liu and Juan (Julie) Wu 2018. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

Abstract

We examine whether, how, and why acquirer shareholder voting matters. We show that acquirers with low institutional ownership, high deal risk, and high agency costs are more likely to bypass shareholder voting. Such acquirers have lower announcement returns and make higher offers than those who do not. To avoid a shareholder vote, acquirers increase equity issuance and cut payout to raise the portion of cash in mixed-payment deals. 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 corporate acquisitions.

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

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
730 N. 14th Street
Lincoln, NE 68588, United States
phone: +1 402 472 5046
e-mail: juliewu@unl.edu

*Corresponding Author

Vote Avoidance and Shareholder Voting in Mergers and Acquisitions*

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

This version: January, 2018

* We are grateful for helpful comments from the editor Dave Denis, two anonymous referees, Vikas Agarwal, David Becher, Marco Becht, Antje Berndt, Christa Bouwman, Tolga Caskurlu, Ling Cen, Mark Chen, Vicente Cuñat, Rui Dai, Alex Edmans, Joseph Fan, Yianni Floros, Stu Gillan, Mireia Gine, Todd Gormley, Daniel Greene, Yaniv Grinstein, Jarrad Harford, Iftekhar Hasan, Jack He, Zhaozhao He, Rob Heinkel, David Hirshleifer, Jerry Hoberg, Maggie Hu, Chong Huang, Ioanuis Ioannou, Dirk Jenter, Wei Jiang, Torsten Jochem, Boochun Jung, Omeshi Kini, Adam Kolasinski, Karthik Krishnan, Mattia Landoni, TC Lin, Jim Linck, Guangli Lu, Andrey Malenko, Nadya Malenko, Katya Malinova, Ron Masulis, Ernst Maug, Harold Mulherin, Jeff Netter, Micah Officer, Teodora Paligorova, Brad Paye, Gordon Phillips, Annette Poulsen, David Reeb, Luc Renneboog, Miikka Rokkanen, Marco Rossi, Lukas Roth, Chris Schwarz, Arjen Siegmann, Denis Sosyura, Aris Stouraitis, Sudi Sudarsanam, Alex Vadilyev, Kumar Venkataraman, Rajesh Vijayaraghavan, Richard Walton, Moqi Xu, Takeshi Yamada, Xueting Zhang, Jian Zhou, seminar participants at Australian National University, Fordham University, Georgia State University, Goethe University, Iowa State University, Queensland University of Technology, Southern Methodist University, Texas A&M University, Tilburg University, Tinbergen Institute, University of California Irvine, University of Georgia, University of Hawaii, University of Mannheim, University of Queensland, University of Texas at Dallas, and University of Toronto, and conference participants at the Glasgow-Nankai Finance Workshop (Glasgow), the Conference on Corporate Bonds (Strasbourg), the Workshop on Executive Compensation and Corporate Governance (Rotterdam), the International Corporate Governance Conference (Hong Kong), the FMA Asia Pacific Conference (Sydney), the First Annual Cass Mergers and Acquisitions Research Centre Conference (London), the Northern Finance Association Meetings (Mont-Tremblant), the Financial Management Association Meetings (Las Vegas), the American Finance Association Meetings (Chicago), the FMA Asia Pacific Conference (Taipei), and the China International Conference in Finance (Hangzhou). We thank Stone Chen, Guangli Lu, Jinfei Sheng, Iris Wang, Ting Xu, and Ming Yuan for research assistance, and Huasheng Gao and Tina Yang for providing data on boards. Li acknowledges financial support from the Social Sciences and Humanities Research Council of Canada (SSHRC Grant Number: 435-2013-0023) and the Sauder School of Business Bureau of Asset Management. All errors are our own.

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 low institutional ownership, high deal risk, and high agency costs are more likely to bypass shareholder voting. Such acquirers have lower announcement returns and make higher offers than those who do not. To avoid a shareholder vote, acquirers increase equity issuance and cut payout to raise the portion of cash in mixed-payment deals. 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 corporate acquisitions.

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

JEL Classification: G32; G34; G38

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. In this paper, using a large hand-collected sample of U.S. acquisitions, we examine why acquirer management might avoid shareholder voting, how it does so, and whether acquirer shareholder voting affects deal outcomes.

Our identification strategy relies on listing rules of the NYSE, AMEX, and NASDAQ that require shareholder voting in mergers and acquisition (M&As) when an acquirer *intends* to issue more than 20% of new shares to finance a deal.¹ 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 avoids a shareholder vote and investigate the tendency for overpayment in M&A deals without acquirer shareholder voting.

Second, among all-stock deals in which acquirer management has no discretion to bypass shareholder voting (i.e., not being able to use cash), 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

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.

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. Our two complementary approaches provide both indirect (via vote avoidance) and direct evidence on the role of acquirer shareholder voting in M&As.

Using a large hand-collected sample of U.S. deals that involve stock payment over the period 1995-2015, we first show that in mixed-payment deals, acquirers with high deal risk and high agency costs 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 then 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 our vote avoidance sample, a 3.0% difference in merger announcement returns corresponds to a value reduction of over \$96 million, an economically significant amount to acquirer shareholders. We further show 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.

Among all-stock deals, deals that require shareholder voting are 4.3% higher in acquirer announcement returns than those that do not when acquirer management cannot precisely manipulate the percent of shares to be issued to avoid a shareholder vote. Given that the average acquirer has a market capitalization of \$3.3 billion in our RD sample, a 4.3% difference in merger announcement returns 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.

In summary, our findings suggest that the prospect of a shareholder vote serves as a disciplinary device that makes acquirer management choose targets with greater synergies and/or offer lower premiums than in cases without shareholder voting, and highlight the importance of institutional monitoring in M&As.

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 role of shareholder voting in 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 (a source of endogeneity in previous studies), which we use as an opportunity to demonstrate the benefits and costs of vote avoidance.²

Second, our paper contributes to the 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 shows that although shareholders' votes are overwhelmingly cast in

² 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.

favor of management’s recommendations and thus are not mechanically pivotal to outcomes, meaningful dissenting vote percentages are followed by subsequent changes in board composition, management, executive compensation, or other policies (see, for example, Burch, Morgan, and Wolf 2004; Cai, Garner, and Walkling 2009; Fischer, Gramlich, Miller, and White 2009; Cuñat, Gine, and Guadalupe 2012; Aggarwal, Dahiya, and Prabhala 2017; Fos, Li, and Tsoutsoura 2017).³ Complementing prior work, we find some evidence that even though deals are rarely voted down, weaker shareholder support is associated with a higher likelihood of CEO turnover after the merger. Moreover, CEOs who avoid a shareholder vote are more likely to experience turnover after the merger than those who do not. Our findings suggest that there are *ex post* CEO career consequences of “weak” votes or vote avoidance in M&As.

Finally, our paper contributes to the 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, we show 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 a shareholder vote and/or making value-enhancing deals—and reinforces the important connection between the sophistication of shareholders and major corporate decisions (Holderness 2017).

³ 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.”

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 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 would be inconsistent with its goal of preserving and strengthening the quality of its market to protect investors.⁴ Our findings suggest that this listing requirement should be expanded for all large deals instead of being conditional on stock issuance.

II. Hypothesis Development

Our first set of hypotheses focuses on why vote avoidance in M&As might be value increasing.

First, acquirer managers have insider knowledge and the sophistication to understand the intricacies involved in running a modern corporation, while many acquirer shareholders do not. As a result, avoiding a shareholder vote prevents any deviation from superior choices that acquirer managers might make on their own (Harris and Raviv 2010). In our setting, the sheer complexity and volume of relevant information associated with large M&A deals (Cain and Denis 2013) make it unlikely that an average individual shareholder could perform a thorough analysis and thereby vote informatively. We thus expect that vote avoidance might be value increasing when acquirer individual investor (institutional) ownership is high (low).

⁴ <https://www.calpers.ca.gov/docs/2016-02-15-shareholder-approval-rules.pdf>.

Second, the very process of shareholder ratification is both costly and time-consuming with uncertain outcomes (Kahan and Rock 2008; Kamar 2011), especially when dealing with proxy advisory firms like the Institutional Shareholder Services (ISS), which is often involved. Bhagwat, Dam, and Harford (2016) further note that some target values can substantially change between the time deal terms are set and the projected closing date, which triggers renegotiation and delays deal closing. In our setting, greater deal risk makes shareholder voting even more costly and time-consuming. We thus expect that vote avoidance might be value increasing when deal risk is high.

The above discussions lead to our first set of hypotheses:

H1a: Ceteris paribus, acquirer managers are more likely to avoid a shareholder vote if their institutional ownership is low or deal risk is high.

H1b: Vote avoidance is value enhancing.

Our second set of hypotheses focuses on why vote avoidance in M&As might be value decreasing and, by extension, shareholder voting might be value increasing.

First, acquirer managers might derive private benefits from value-destroying deals and, therefore, prefer to avoid the scrutiny that comes with a shareholder vote. Prior research has documented a decoupling of managerial wealth and shareholder wealth in the case of M&As (Grinstein and Hribar 2004; Harford and Li 2007; Fu, Lin, and Officer 2013), and value-destroying deals are more likely to take place in firms with high cash holdings and/or poor investment opportunities (Jensen 1986; Lang, Stulz, and Walkling 1991; Harford 1999). We thus expect that vote avoidance might be value decreasing when acquirers have high agency costs of free cash flow.

Second, shareholder intervention can mitigate agency problems (see, for example, Shleifer and Vishny 1986; Admati, Pfleiderer, and Zechner 1994; Huddart 1993; Maug 1998;

Noe 2002). Acquirer institutional investors with the aid of shareholder proxy advisory firms have sufficient knowledge and resources to intervene informatively (Yermack 2010; Malenko and Shen 2016). Moreover, acquirer institutional investors, proxy advisory firms, and the media scrutinize bids that require a shareholder vote because as per exchange listing rules, those bids are for relatively large targets and have the potential to dilute ownership and/or destroy shareholder value. To the extent that sophisticated acquirer institutional investors have strong incentives to be more involved in the decision-making process, we expect that shareholder voting might be value increasing when acquirer institutional ownership is high, whereas vote avoidance is more likely in acquirers with low institutional ownership.

The above discussions lead to our second set of hypotheses and its corollary:

H2a: Ceteris paribus, acquirer managers are more likely to avoid a shareholder vote if their firms have high agency costs or their institutional ownership is low.

H2b: Vote avoidance is value destroying.

Corollary: Shareholder voting is value increasing.

In our empirical investigation, we first provide cross-sectional evidence on the determinants of vote avoidance. We then conduct tests on the value implications of vote avoidance to differentiate the role of institutional ownership, as both H1a and H2a predict a negative relation between institutional ownership and the likelihood of vote avoidance. Finally, we examine the value implication of shareholder voting, which is a corollary to H2.

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. Table 1 lists the steps taken

to form the final sample of 5,223 stock deals involving public, private, and subsidiary targets (henceforth the latter two are jointly referred to as private targets). 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’s) EDGAR website.⁵

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 or not 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 or not. 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

⁵ Appendix IA3 in the Internet Appendix provides a detailed description of our sample formation and data collection process.

and those that do not. Acquirers who require shareholder voting on average have lower CAR3, lower institutional ownership, lower market 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 buying a private target than those deals that do not require shareholder voting. Overall, these summary statistics show systematic differences between the two subsamples separated by whether shareholder voting is required or not.⁶

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). In this section, we examine *why* acquirer management might avoid shareholder voting, *how* it does so, and *whether* acquirer shareholder voting affects deal outcomes.

A. Evidence of vote avoidance in M&As

Figure 1 Panels A and B plot the density function of the percent of shares to be issued for the mixed-payment sample and the all-stock sample, respectively. Visual inspection reveals 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

⁶ Table IA1 in the Internet Appendix presents the correlation matrix for our sample of stock deals. None of the correlations warrants any concern for multicollinearity.

mixed-payment sample due to a cluster of deals with the percent of shares to be issued right below the 20% threshold (and hence enabling acquirer management to avoid shareholder voting). In contrast, we do not observe such 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 test results show that in some mixed-payment deals, acquirer management does try to bypass shareholder voting by issuing shares just below the 20% threshold. We next investigate *why* and *how* acquirer management avoids a shareholder vote.

B. Determinants of vote avoidance

Our analysis of the determinants 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),⁷ 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.

⁷ 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.

The key independent variables are motivated by our hypotheses, including acquirer institutional ownership, deal risk, and agency costs. Institutional ownership is the percentage of shares owned by 13F institutions measured at the most recent quarter-end prior to the merger announcement. Consistent with Bhagwat, Dam, and Harford (2016), deal risk is an indicator variable that takes the value of one if a deal's transaction value is in the top quartile, and zero otherwise. Our proxy for agency costs (of free cash flow), 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. Table 4 presents the results.

Since acquirer management might have the ability to bypass shareholder voting under a wide spectrum of possibilities, we run a 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 percent of shares to be issued falling within the band of [14%, 26%]. Columns (2), (3), and (4) expand to include broader bands of [12%, 28%], [10%, 30%], and [5%, 35%], respectively. As the band becomes wider, deals with share issuance farther away from the threshold, in which acquirer management is more likely to use cash for reasons other than bypassing shareholder voting, are included.⁸ 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

⁸ 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).

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.

In Panel A, we show that in columns (1)-(4), institutional ownership is negatively associated with acquirer management's propensity to bypass shareholder voting, and that the coefficients are more significant and larger in magnitude in subsamples with 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 9% - 12%. In column (5), we show that institutional ownership is again negatively and significantly associated with vote avoidance after giving more weights to deals whose percent of shares to be issued is closer to the threshold.⁹ This negative association is consistent with both H1a and H2a, in which vote avoidance is more likely to occur when individual investor ownership is high, and thus acquirer management is concerned about uninformed individual investors interfering (H1a); and when institutional ownership is low, and hence there is less institutional investor monitoring to prevent acquirer management from avoiding a vote (H2a).¹⁰

⁹ In Tables IA2 and IA3 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).

¹⁰ This negative association may also be consistent with another interpretation, in which acquirer management believes institutional investors would be more likely to support a deal (or would more easily reach a voting agreement) than individual investors, and therefore, there is little need to avoid a shareholder vote. In untabulated analysis, we do not find voting agreements between acquirers and their institutional investors are used often enough to be an important consideration for vote avoidance. Moreover, this interpretation is not supported by the negative value implication of vote avoidance.

We also show that in columns (3)-(5), deal risk is positively and significantly associated with acquirer management's propensity to bypass shareholder voting, consistent with H1a. This finding suggests that if acquirer management is concerned about interim deal risk, it would try to avoid a shareholder vote to consummate the deal as soon as possible.

We further show that across all columns, agency costs are positively and significantly associated with vote avoidance, consistent with H2a. This finding suggests that agency problems are an important reason behind value-destroying acquisitions, and hence acquirers plagued with agency problems are more likely to avoid a shareholder vote.

In addition to the above main findings, we 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, acquirer prior year stock return is also 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 proposed deals. Finally, buying a private target is positively and significantly associated with acquirer management's propensity to bypass shareholder voting as well; 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 insider ownership, board size, board independence, and whether the CEO is also Chairman of the Board (CEO-COB duality). There is some weak evidence suggesting that high insider 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 column (5)). The former is consistent

with the view that if there is a high insider ownership, acquirer management will not be worried about having a shareholder vote, as those insiders will be more likely to support the deal; the latter shows that powerful acquirer CEOs are more likely to avoid a shareholder vote. Importantly, after controlling for these governance measures, our main findings remain unchanged.

In summary, Table 4 shows that acquirers with low institutional ownership, high deal risk, and high agency costs are more likely to bypass shareholder voting. The negative association between institutional ownership and the likelihood of vote avoidance could be due to a value-increasing motive of vote avoidance (i.e., avoiding interference from uninformed individual investors), or a value-decreasing motive of vote avoidance (i.e., avoiding monitoring from well-informed institutional investors). We next examine the value implication of vote avoidance to help differentiate those different interpretations.

C. Vote avoidance, deal quality, and offer premium

To test H1b versus H2b, we regress acquirer CAR3 on the indicator variable *Vote avoidance* and other firm and deal controls using the same sample from Table 4. Table 5 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. Given that the average acquirer has a market capitalization of \$3.2 billion in the sample, a 3.0% drop in merger announcement returns corresponds to a value reduction of over \$96 million, an economically significant amount to acquirer shareholders. This finding provides support for H2b. Combined with an earlier finding that institutional ownership is negatively associated with vote avoidance, our results suggest that high institutional ownership

primarily captures effective monitoring by large shareholders who help rein in acquirer management's tendency to avoid a shareholder vote, consistent with H2a.

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 contrast, acquirer management in the U.S. can manipulate the method of payment to avoid a shareholder vote. This richer institutional setting provides an opportunity to examine the tendency for overpayment in M&A deals without a shareholder vote.

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 industry median market value of equity over book value of assets, as a proxy for offer premium that can be applied to both public and private targets. Table 5 Panel B presents the results.

We find that across all subsamples, *Vote avoidance* is associated with at least a 12% higher offer premium, indicating the tendency for overpayment when acquirer management manipulates the deal structure to avoid shareholder voting.

In Panel C, we repeat the analysis using offer premium 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 (Schwert 1996; Boone and Mulherin 2007). Based on a smaller sample of public targets, we still find evidence that deals that avoid a shareholder vote have higher offer premiums than those with a vote. Our

analysis of offer premiums complements the findings in 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 payment to bypass shareholder voting, and that acquirers with low institutional ownership, high deal risk, and high agency costs are more likely to bypass shareholder voting. We further show that acquirers who bypass voting have lower announcement returns and make higher offers than those who do not.

D. Financing and investment activities and vote avoidance

Our analyses suggest that agency problems are a key determinant of vote avoidance, thus it is important to understand *how* acquirer management is able to manipulate the deal structure without alerting institutional investors or proxy advisory firms like ISS. Are these acquirers more likely to issue equity or debt immediately preceding a deal announcement? Are they more likely to conserve cash or cut expenses in anticipation of the need to finance a larger portion of a mixed-payment deal? We proceed to 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 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 6 presents the results.

We find that vote-avoiding acquirers issue significantly more equity compared to their matched firms.¹¹ 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.

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 and offer premiums, leading to a spurious association between the two. 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

¹¹ 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.

in the distance to the 20% threshold in all-stock deals that can help us estimate a causal effect of shareholder voting on deal quality using an RDD.¹²

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 outcomes 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 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

¹² 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), Cuñat, Gine, and Guadalupe (2012, 2016), Boone and White (2015), Bach and Metzger (2016b), Becht, Polo, and Rossi (2016), Malenko and Shen (2016), and Focke, Maug, and Niessen-Ruenzi (2017).

acquirer's shares.¹³ 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, despite acquirer management's near certainty about the likelihood of mandatory shareholder voting, 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).¹⁴ Table 7 reports the balancing tests for baseline firm and deal characteristics.¹⁵ None of these variables exhibits any discontinuity at the threshold, confirming that any potential treatment effect we observe is not driven by observable firm or deal characteristics.

¹³ 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."

¹⁴ We acknowledge that the balancing tests do not address the possibility that unobserved factors might drive the treatment.

¹⁵ 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.

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 who 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).¹⁶ 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.¹⁷ Cuñat, Gine, and Guadalupe (2012) find 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

¹⁶ 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.

¹⁷ 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.

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; Cuñat, 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 IA4 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 corollary to H2 that shareholder voting is value increasing.

C. External validity

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 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. Nonetheless, a number of ways provide suggestive evidence on the extent of external validity (Imbens and Lemieux 2008; Cuñat, 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 IA5 in the Internet Appendix shows that the RD sample is fairly similar to the all-stock deal sample over the sample period 1995-2015, with the only notable differences appearing in 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 overall 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 RDD 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 RDD estimate of the treatment effect (0.043) is very close to its WLS estimate using the RD sample (0.042).¹⁸ Moreover, the OLS estimate is fairly stable, varying between 0.018 to 0.029 across various subsamples. As long as the 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 Cuñat, Gine, and Guadalupe (2016) for a recent application) that allows us to generalize the RDD estimate and hence the treatment effect. This method relies upon identifying a set of

¹⁸ Since the RDD 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 RDD estimate with the WLS estimate than with the OLS estimate (Lee and Lemieux 2010).

control variables that constitute a sufficient statistic for the running variable in a window wider than the optimal bandwidth used in the RDD 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 counterfactual 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. We observe significant correlations between the running variable and the outcome variable in columns (1) and (3). After including additional controls in columns (2) and (4), 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 as in Panel A columns (2) and (4). 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.¹⁹

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 all-stock payment 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.

Before 2001, firms could use either the purchase or pooling of interests method in M&A accounting. The purchase method and its associated asset reevaluation and impairment tests can have negative impacts on earnings per share, return on equity, and return on assets (Reda 1999). This method also does not account for the target's revenues between the start of the fiscal year and the acquisition date and could also adversely alter the newly merged firm's initial performance. The pooling of interests method was thus much favored by acquirer management, but the only way to qualify for pooling accounting was to pay at least 90% of the consideration in stock.

On April 21, 1999, the Financial Accounting Standards Board (FASB) announced that it was eliminating the pooling method as of July 1, 2001. This change in M&A accounting

¹⁹ More details on Apple shareholder activism can be found at:
<http://www.investopedia.com/articles/markets/022816/apple-activist-investment-analysis-aapl.asp>

provides a quasi-natural experiment in which all-stock deals initiated prior to the change were largely exogenous to our outcome variable, 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 IA6 in the Internet Appendix presents the results using this quasi-natural experiment. Panel A (B) presents the treatment effect estimated using all-stock deals over the period 1995-1998 before the FASB's announcement (1995-2000 before the final elimination). The average treatment effect is positive and significant and ranges between 2.8% to 8.6% in merger announcement 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, we find that 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 merger announcement returns. In this section, we examine possible cross-sectional variations in this treatment effect, potential underlying mechanisms, as well as *ex post* CEO career consequences from weak votes or vote avoidance.

A. Institutional monitoring

Prior literature shows that institutional investors are active in improving corporate governance practices and addressing agency problems (see surveys by Gillan and Starks 2003; Yermack 2010). When voting in M&As, a corporate decision that requires shareholders to process large amounts of complex information, institutional investors rather than small

individual shareholders have the expertise and resources to conduct due diligence, vote informatively, and/or seek recommendations from proxy advisory firms. We thus expect that the value impact of shareholder voting will be concentrated among acquirers with a strong presence of institutional investors. Table 10 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, we find 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 highlight the role of institutional monitoring in creating shareholder value in M&As.

We next explore possible mechanisms underlying the value effect. A natural starting point is to examine offer premium—whether the requirement of shareholder voting might constrain acquirer management in the amount it can offer (Becht, Polo, and Rossi 2016). Panel B compares RDD estimates of the treatment effect on offer premiums between 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.

We then investigate if there is any real effect of shareholder voting in M&As by examining post-merger operating performance.²⁰ 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, using the IK bandwidth, we find that 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. In contrast, there are no statistically significant jumps for acquirers with low institutional ownership. Our findings on better long-run operating performance suggest that acquirers choosing targets with greater synergies is a real effect of shareholder voting on deal-making, as opposed to their paying less for targets being the sole effect.

We conclude that institutional monitoring in M&As adds value because it deters acquirer management from overpayment and makes acquirer management do deals with greater synergies, consistent with H2 and its corollary.

B. *Ex post* CEO career consequences

So far, we have established the positive effects of shareholder voting on deal quality and offer premium. A relevant question is whether shareholder voting has any consequences for acquirer managers. To address this question, we merge our sample with the ExecuComp database to identify CEO turnover, and with the ISS Voting Analytics (ISSVA) database to obtain actual voting outcome when a merger proposal is on the ballot. Because the ISSVA

²⁰ 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.

database starts its coverage in 2001 but most of the all-stock deals occur before 2000, we have only very small samples, and hence our findings should be interpreted with caution. Table IA7 in the Internet Appendix presents the results.

Panel A presents the summary statistics of the approval rate and CEO turnover for deals that require a shareholder vote. We first show that consistent with prior literature, once a merger proposal is put up for a vote, the approval rate is usually very high, with a mean value at 98.1% and a median value at 99.4%. We further show that over the three-year period after a deal, a third of acquirer CEOs in our sample experience turnover.²¹

Panel B compares CEO turnover between acquirers with high and low shareholder approval based on the median approval rate. We find that acquirer CEOs who do not receive the strongest shareholder support for their proposed deals are significantly more likely to experience turnover in the three-year period after the deal compared to their counterparts with the strongest shareholder support.

Panel C presents the summary statistics of vote avoidance and CEO turnover using the sample from Table 4 with available information. Panel D compares CEO turnover between acquirers who require a shareholder vote and those that avoid a vote. We find that acquirer CEOs who avoid a shareholder vote are significantly more likely to experience turnover in the three-year period after the deal compared to their counterparts who seek shareholder approval (based on the Wilcoxon test).

In summary, we provide suggestive evidence that there are *ex post* CEO career consequences of “weak” votes or vote avoidance in M&As.

²¹ Kaplan and Minton (2012) show that annual CEO turnover is increasing over time. In the more recent period since 2000, CEO turnover has increased to 17%. Note that our sample in Panel A only includes deals in 2000 and after; as such, our finding that a third of CEOs experience turnover over the three-year period after a merger does not appear to be too high given the evidence in Kaplan and Minton (2012).

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 low institutional ownership, high deal risk, and high agency costs are more likely to bypass shareholder voting. We then show that acquirers who bypass shareholder voting have lower announcement returns and make higher offers than those who do not. We further 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. 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 choosing targets with greater synergies. Evidence further suggests that acquirer CEOs whose deal proposals receive weaker shareholder support or who avoid a shareholder vote are more likely to experience turnover after the deal than their counterparts with stronger shareholder support or seeking shareholder approval. 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.
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).
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.
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.
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).
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.
High insider ownership	An indicator variable that takes the value of one if the ownership of an acquirer's officers and directors is in the top quartile, and zero otherwise.
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.
ROA3	Acquirer post-merger operating performance, computed as the three-year average ROA.

References:

- Appel, Ian, Todd Gormley, and Donald Keim, 2016. Passive investors, not passive owners, *Journal of Financial Economics* 121, 111–141.
- Admati, Anat R., Paul Pfleiderer, and Josef Zechner, 1994. Large shareholder activism, risk sharing, and financial market equilibrium, *Journal of Political Economy* 102, 1097–1130.
- Aggarwal, Reena, Sandeep Dahiya, and Nagpurnanand Prabhala, 2017. The power of shareholder votes: Evidence from uncontested director elections, *Journal of Financial Economics* forthcoming.
- Ahern, Kenneth R., 2012. Bargaining power and industry dependence in mergers, *Journal of Financial Economics* 103, 530–550.
- Angrist, Joshua D., and Mikka Rokkanen, 2015. Wanna get away? RD identification away from the cutoff, *Journal of American Statistical Association* 110, 1331–1344.
- Bach, Laurent, and Daniel Metzger, 2016a. Are shareholder votes rigged? Stockholm School of Economics working paper.
- Bach, Laurent, and Daniel Metzger, 2016b. Why do shareholder votes matter? Stockholm School of Economics working paper.
- Becht, Marco, Andrea Polo, and Stefano Rossi, 2016. Does mandatory shareholder voting prevent bad acquisitions? *Review of Financial Studies* 29, 3035–3067.
- Bliss, Barbara A., Yingmei Cheng, and David J. Denis, 2015. Corporate payout, cash retention, and the supply of credit: Evidence from the 2008–2009 credit crisis, *Journal of Financial Economics* 115, 521–540.
- Bhagwat, Vineet, Robert Dam, and Jarrad Harford, 2016. The real effects of uncertainty on merger activity, *Review of Financial Studies* 29, 3000–3034.
- Boone, Audra L., and J. Harold Mulherin, 2007. How are firms sold? *Journal of Finance* 62, 847–875.
- Boone, Audra L., and Joshua T. White, 2015. The effect of institutional ownership on firm transparency and information production, *Journal of Financial Economics* 117, 508–533.
- Burch, Timothy R., Angela G. Morgan, and Jack G. Wolf, 2004. Is acquiring-firm shareholder approval in stock-for-stock mergers perfunctory? *Financial Management* 33, 45–69.
- Cai, Jie, Jacqueline L. Garner, and Ralph A. Walkling, 2009. Electing directors, *Journal of Finance* 64, 2389–2421.

- Cain, Matthew D., and David J. Denis, 2013. Information production by investment banks: Evidence from fairness opinions, *Journal of Law and Economics* 56, 245–280.
- Chava, Sudheer, and Michael R. Roberts, 2008. How does financing impact investment? The role of debt covenants, *Journal of Finance* 63, 2085–2121.
- Chen, Xia, Jarrad Harford, and Kai Li, 2007. Monitoring: Which institutions matter? *Journal of Financial Economics* 86, 279–305.
- Cuñat, Vicente, Mireia Gine, and Maria Guadalupe, 2012. The vote is cast: The effect of corporate governance on shareholder value, *Journal of Finance* 67, 1943–1977.
- Cuñat, Vicente, Mireia Gine, and Maria Guadalupe, 2016. Price and probability: Decomposing the takeover effects of Anti-Takeover Provisions, LSE working paper.
- De Bodt, Eric, Jean-Gabriel Cousin, and Richard Roll, 2016. Full stock payment marginalization in M&A transactions, *Management Science* forthcoming.
- Erickson, Merle, and Shiing-wu Wang, 1999. Earnings management by acquiring firms in stock for stock mergers, *Journal of Accounting and Economics* 27, 149–176.
- Fama, Eugene F., and Michael C. Jensen, 1983. Separation of ownership and control, *Journal of Law and Economics* 26, 301–325.
- Fischer, Paul E., Jeffrey D. Gramlich, Brian P. Miller, and Hal D. White, 2009. Investor perceptions of board performance: Evidence from uncontested director elections, *Journal of Accounting and Economics* 48, 172–189.
- Focke, Florens, Ernst Maug, and Alexandra Niessen-Ruenzi, 2017. The impact of firm prestige on executive compensation, *Journal of Financial Economics* 123, 313–336.
- Fos, Vyacheslav, Kai Li, and Margarita Tsoutsoura, 2017. Do director elections matter? *Review of Financial Studies* forthcoming.
- Fu, Fangjian, Leming Lin, and Micah S. Officer, 2013. Acquisitions driven by stock overvaluation: Are they good deals? *Journal of Financial Economics* 109, 24–39.
- Gao, Huasheng, Jarrad Harford, and Kai Li, 2013. Determinants of corporate cash policy: Insights from private firms. *Journal of Financial Economics* 109, 623–639.
- Gillan, Stuart L., and Laura T. Starks, 2000. Corporate governance proposals and shareholder activism: The role of institutional investors, *Journal of Financial Economics* 2, 275–305.
- Gillan, Stuart L., and Laura T. Starks, 2003. Corporate governance, corporate ownership, and the role of institutional investors: A global perspective, *Journal of Applied Finance* 13, 4–22.

- Grinstein, Yaniv, and Paul Hribar, 2004. CEO compensation and incentives: Evidence from M&A bonuses, *Journal of Financial Economics* 73, 119–143.
- Grundfest, Joseph A. 1993. Just vote no: A minimalist strategy for dealing with barbarians inside the gates, *Stanford Law Review* 45, 857–937.
- Harford, Jarrad, 1999. Corporate cash reserves and acquisitions, *Journal of Finance* 54, 1969–1997.
- Harford, Jarrad, Dirk Jenter, and Kai Li, 2011. Institutional cross-holdings and their effect on acquisition decisions, *Journal of Financial Economics* 99, 27–39.
- Harford, Jarrad, and Kai Li, 2007. Decoupling CEO wealth and firm performance: The case of acquiring CEOs, *Journal of Finance* 62, 917–949.
- Harford, Jarrad, Sattar Mansi, William F. Maxwell, 2008. Corporate governance and firm cash holdings in the US, *Journal of Financial Economics* 87, 535–555.
- Harris, Milton, and Artur Raviv, 2010. Control of corporate decisions: Shareholders vs. management, *Review of Financial Studies* 23, 4115–4147.
- Hartzell, Jay C., and Laura T. Starks, 2003. Institutional investors and executive compensation, *Journal of Finance* 58, 2351–2374.
- Holderness, Clifford G., 2017. Equity issuances and agency costs: The telling story of shareholder approval around the world, *Journal of Financial Economics* forthcoming.
- Hsieh, Jim, and Qinghai Wang, 2008. Shareholder voting rights in mergers and acquisitions, Georgia Institute of Technology working paper.
- Huddart, Steven, 1993. The effect of a large shareholder on corporate value, *Management Science* 39, 1407–1421.
- Iliev, Peter, Karl Lins, Darius P. Miller, and Lukas Roth, 2015. Shareholder voting and corporate governance around the world, *Review of Financial Studies* 28, 2167–2202.
- Imbens, Guido W., and Karthik Kalyanaraman, 2011. Optimal bandwidth choice for the regression discontinuity estimator, *Review of Economic Studies* 79, 933–959.
- Imbens, Guido W., and Thomas Lemieux, 2008. Regression discontinuity designs: A guide to practice, *Journal of Econometrics* 142, 615–635.
- Jensen, Michael C., 1986. Agency costs of free cash flow, corporate finance, and takeovers, *American Economic Review* 76, 323–329.

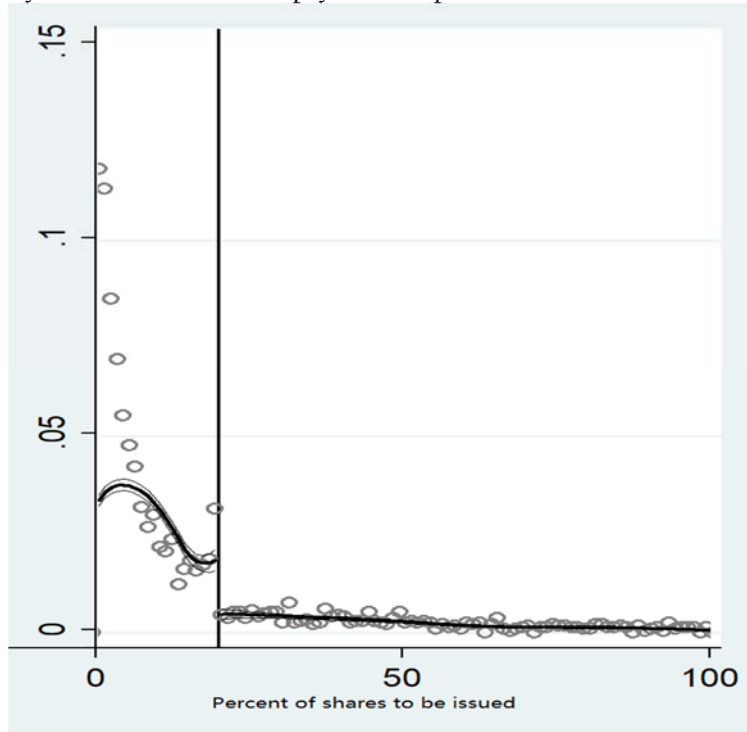
- Kahan, Marcel, and Edward Rock, 2008. The hanging chads of corporate voting, *Georgetown Law Journal* 96, 1227–1281.
- Kamar, Ehud, 2011. Does shareholder voting on acquisitions matter? University of Southern California working paper.
- Kaplan, Steven N., and Bernadette A. Minton, 2012. How has CEO turnover changed? *International Review of Finance* 12, 57–87.
- Karmel, Roberta S., 2001. The future of corporate governance listing requirements, *SMU Law Review* 54, 325–356.
- Kothari, S.P., Andrew J. Leone, and Charles E. Wasley, 2005. Performance matched discretionary accrual measures, *Journal of Accounting and Economics* 39, 163–197.
- Krishnan, Karthik, Debarshi K. Nandy, and Manju Puri, 2015. Does financing spur small business productivity? Evidence from a natural experiment, *Review of Financial Studies* 28, 1768–1809
- Lang, Larry, René Stulz, and Ralph A. Walkling, 1991. A test of the free cash flow hypothesis: The case of bidder returns, *Journal of Financial Economics* 29, 315–335.
- Lee, David S., and Thomas Lemieux, 2010. Regression discontinuity designs in economics, *Journal of Economic Literature* 48, 281–355.
- Louis, Henock, 2004. Earnings management and the market performance of acquiring firms, *Journal of Financial Economics* 74, 121–148.
- Malenko, Nadya, and Yao Shen, 2016. The role of proxy advisory firms: Evidence from a regression-discontinuity design, *Review of Financial Studies* 29, 3394–3427.
- Mason, Paul, Mike Stegemoller, and Steven Utke, 2017. The effect of shareholder voting requirements on method of payment and performance outcomes in acquisitions, Baylor University working paper.
- Maug, Ernst, 1998. Large shareholders as monitors: Is there a trade-off between liquidity and control? *Journal of Finance* 53, 65–98.
- McCrary, Justin, 2008. Manipulation of the running variable in the regression discontinuity design: A density test, *Journal of Econometrics* 142, 698–714.
- Michael, Douglas C., 1992. Untenable status of corporate governance listing standards under the Securities Exchange Act. *The Business Lawyer* 4, 1461–1504.
- Nini, Greg, David C. Smith, and Amir Sufi, 2009. Creditor control rights and firm investment policy, *Journal of Financial Economics* 92, 400–420.

- Noe, Thomas H., 2002. Investor activism and financial market structure, *Review of Financial Studies* 15, 289–318.
- Officer, Micah S., 2007. The price of corporate liquidity: Acquisition discounts for unlisted targets, *Journal of Financial Economics* 83, 571–598.
- Officer, Micah S., Annette B. Poulsen, and Mike Stegemoller, 2009. Target-firm information asymmetry and acquirer returns, *Review of Finance* 13, 467–493.
- Reda, James F., 1999. What you need to know about pooling of interests accounting, *Journal of Compensation and Benefits*, March/April, 33–39.
- Roberts, Michael R., and Amir Sufi, 2009. Renegotiation of financial contracts: Evidence from private credit agreements, *Journal of Financial Economics* 93, 159–184.
- Roberts, Michael R., and Toni M. Whited, 2013. Endogeneity in empirical corporate finance, in: Constantinides, G., R. Stulz, and M. Harris (Eds.), *Handbook of the Economics of Finance*, Vol. 2, Part A, Elsevier/North-Holland, Amsterdam, 493–572.
- Schmidt, Cornelius, and Rüdiger Fahlenbrach, 2017. Do exogenous changes in passive institutional ownership affect corporate governance and firm value? *Journal of Financial Economics* 124, 285–306.
- Schwert, G. William, 1996. Markup pricing in mergers and acquisitions, *Journal of Finance* 41, 153–192.
- Shleifer, Andrei, and Robert W. Vishny, 1986. Large shareholders and corporate control, *Journal of Political Economy* 94, 461–488.
- Yermack, David, 2010. Shareholder voting and corporate governance, *Annual Review of Financial Economics* 2, 103–125.

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

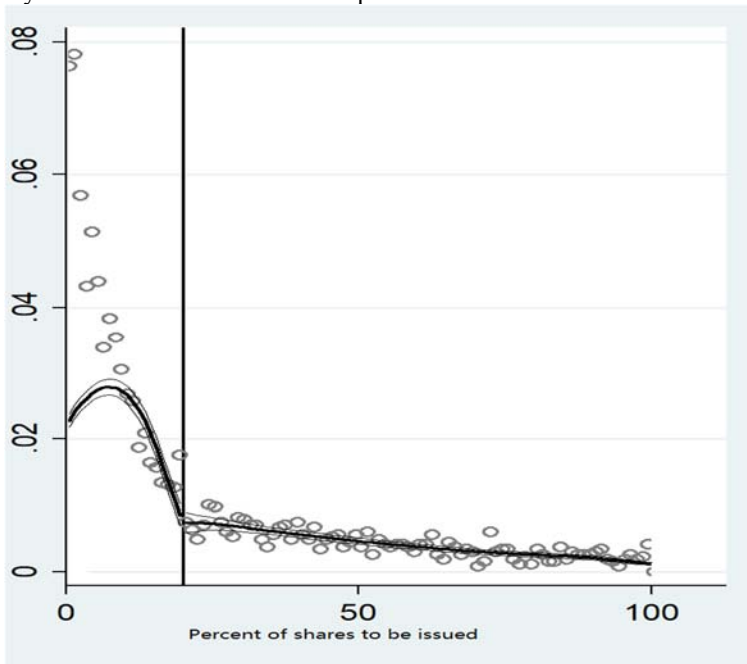


Figure 2. Acquirer announcement returns around the 20% threshold

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.

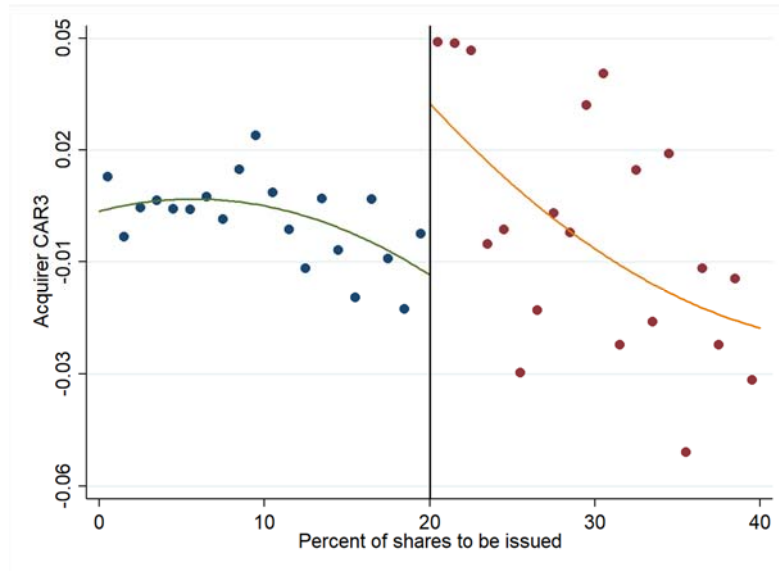


Table 1. Sample formation

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

Year	# of deals	All-stock payment		Mixed payment		
		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 $\geq 20\%$) 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. Definitions of all variables are provided in Appendix A. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

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
Deal risk	0.177	0	0	1	0.382
Agency	0.026	-0.03	0	0.136	0.097
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

Variable	Require shareholder voting (N = 1,359)			Do not require shareholder voting (N = 3,864)			Test of difference	
	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***
Deal risk	0.351	0	0.477	0.116	0	0.320	0.235***	0***
Agency	0.024	0.014	0.116	0.026	0	0.090	-0.003	0.014***
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***

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. 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: The baseline specification

	(1)	(2)	(3)	(4)	(5)
	OLS	OLS	OLS	OLS	WLS
% shares issued	[14%, 26%]	[12%, 28%]	[10%, 30%]	[5%, 35%]	[5%, 35%]
Institutional ownership	-0.411*** (0.151)	-0.377*** (0.118)	-0.306*** (0.109)	-0.142 (0.090)	-0.725*** (0.078)
Deal risk	0.093 (0.095)	0.102 (0.080)	0.118* (0.064)	0.092* (0.052)	0.124** (0.061)
Agency	1.122*** (0.322)	0.953*** (0.282)	0.708** (0.292)	0.735*** (0.197)	1.337*** (0.135)
M/B	-0.0005 (0.0005)	-0.0005 (0.0004)	-0.0001 (0.0003)	-0.0001 (0.0003)	-0.0001 (0.0003)
Leverage	0.638** (0.262)	0.413** (0.177)	0.419** (0.181)	0.456*** (0.146)	0.492*** (0.116)
Cash	-0.181 (0.217)	0.067 (0.172)	-0.007 (0.174)	-0.058 (0.144)	0.023 (0.099)
ROA	0.130 (0.115)	0.154 (0.105)	0.104 (0.097)	0.079 (0.067)	0.212*** (0.060)
Prior year return	-0.127** (0.059)	-0.114** (0.051)	-0.120** (0.051)	-0.067** (0.033)	-0.175*** (0.033)
Relative size	-0.032 (0.030)	-0.030 (0.028)	-0.017 (0.024)	-0.024 (0.021)	-0.038** (0.017)
Diversifying	0.071 (0.085)	0.049 (0.072)	0.098 (0.066)	0.013 (0.052)	0.100** (0.044)
Tender offer	-0.282 (0.272)	0.061 (0.192)	0.182 (0.170)	0.465*** (0.137)	-0.010 (0.141)

Private target	0.268*** (0.075)	0.290*** (0.062)	0.302*** (0.058)	0.360*** (0.046)	0.224*** (0.045)
Intercept	-0.194 (0.466)	-0.206 (0.444)	-0.373*** (0.143)	0.669*** (0.111)	0.938 (0.816)
Industry/Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	228	301	363	513	513
R-squared	0.519	0.490	0.458	0.436	0.794

Panel B: Controlling for additional measures of corporate governance

	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) WLS
% shares issued	[14%, 26%]	[12%, 28%]	[10%, 30%]	[5%, 35%]	[5%, 35%]
Institutional ownership	-0.400** (0.155)	-0.347*** (0.126)	-0.270** (0.116)	-0.131 (0.097)	-0.679*** (0.082)
Deal risk	0.073 (0.094)	0.117 (0.082)	0.123* (0.072)	0.089 (0.056)	0.133** (0.062)
Agency	1.207*** (0.441)	1.016*** (0.371)	0.796** (0.358)	0.756*** (0.221)	1.462*** (0.160)
High insider ownership	-0.052 (0.095)	-0.022 (0.083)	-0.024 (0.073)	-0.013 (0.056)	-0.129*** (0.044)
Board size	-0.008 (0.009)	0.001 (0.009)	0.003 (0.008)	0.004 (0.007)	0.002 (0.005)
Board independence	0.000 (0.002)	0.001 (0.002)	0.001 (0.002)	0.000 (0.001)	-0.002 (0.001)
CEO-COB duality	0.061 (0.077)	0.047 (0.061)	0.046 (0.055)	0.067 (0.044)	0.075* (0.039)
Other controls	Yes	Yes	Yes	Yes	Yes
Industry/Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	214	275	331	473	473
R-squared	0.517	0.495	0.461	0.447	0.808

Table 5. 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. Panel C presents the regression results when the dependent variable is offer premium measured by 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). 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 = $1/|\% \text{ shares to be issued} - 20\%|$). 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	0.0001	-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)
Intercept	-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: Offer premium as proxied by 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*** (0.072)	0.124* (0.070)	0.107 (0.070)	0.141** (0.061)	0.144*** (0.054)
Other controls	Yes	Yes	Yes	Yes	Yes
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

Panel C: Offer premium based on target cumulative abnormal returns over (-63, +126)

	(1)	(2)	(3)	(4)	(5)
% shares to be issued	[14%, 26%]	[12%, 28%]	[10%, 30%]	[5%, 35%]	[5%, 35%]
Vote avoidance	0.123 (0.124)	0.092 (0.113)	0.043 (0.089)	0.125* (0.074)	0.144** (0.073)
Other controls	Yes	Yes	Yes	Yes	Yes
Industry/Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	109	131	156	221	221
R-squared	0.490	0.468	0.435	0.384	0.724

Table 6. 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 acquirers 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.

Variable	Treated firms (Vote avoidance = 1)			Matched firms			Test of difference	
	Mean (1)	Median (2)	Std Dev (3)	Mean (4)	Median (5)	Std Dev (6)	t-test (1) - (4)	Wilcoxon test (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 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)
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)
High insider ownership	-0.052	0.142	-0.366	0.715	+/- 6
	-0.032	0.125	-0.252	0.801	+/- 8
	-0.026	0.111	-0.235	0.814	+/- 10
	-0.027	0.089	-0.302	0.762	IK (+/- 14.35)
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 = $1/|\% \text{ shares to be issued} - 20\%|$). 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. 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: 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 (0.002)	0.001 (0.002)	0.001 (0.001)	-0.0002 (0.001)	0.001 (0.001)
Leverage	-0.072 (0.062)	-0.087* (0.049)	-0.072* (0.039)	-0.051** (0.024)	0.056 (0.037)
Cash	-0.115** (0.045)	-0.113*** (0.041)	-0.104*** (0.033)	-0.080*** (0.025)	-0.190*** (0.027)
ROA	-0.011 (0.028)	-0.031 (0.027)	-0.041* (0.024)	-0.038** (0.017)	0.032** (0.014)
Prior year return	0.017 (0.012)	0.022** (0.011)	0.016* (0.009)	0.004 (0.007)	0.042*** (0.008)
Log(Deal value)	-0.009** (0.004)	-0.007** (0.003)	-0.005* (0.003)	-0.004* (0.002)	-0.008** (0.003)
Relative size	-0.010 (0.018)	-0.010 (0.016)	-0.001 (0.013)	0.009 (0.009)	0.008 (0.008)
Diversifying	0.010 (0.017)	-0.003 (0.015)	0.006 (0.012)	0.010 (0.008)	0.037*** (0.010)
Tender offer	-0.067* (0.034)	-0.084*** (0.028)	-0.079*** (0.028)	-0.042 (0.030)	-0.096** (0.044)
Private target	0.049*** (0.013)	0.042*** (0.010)	0.043*** (0.009)	0.038*** (0.007)	0.058*** (0.011)
Intercept	-0.018 (0.040)	-0.006 (0.034)	-0.022 (0.028)	-0.094*** (0.019)	-0.172 (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. 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: 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)
Intercept	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)
Intercept	0.007***	0.053***	-0.066***
	(0.003)	(0.011)	(0.022)
Industry/Year FEs	No	No	Yes
Observations	2,131	2,131	2,131
R-squared	0.012	0.086	0.118

Table 10. 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

Variable	High institutional ownership				Low institutional ownership			
	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

Variable	High institutional ownership				Low institutional ownership			
	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

Variable	High institutional ownership				Low institutional ownership			
	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 of 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 sample formation and data collection process

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.

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.

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.

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 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.
Pearson correlation

This table presents the correlation matrix. The sample consists of 5,223 stock deals between 1995 and 2015 from the Thomson One Banker SDC database. Superscripts a, b, c correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

	CAR3	Institutional ownership	Deal risk	Agency	Total assets	Market cap	M/B	Leverage	Cash	ROA	Prior year return	Deal value	Relative size	Diversifying	Tender offer
CAR3	1														
Institutional ownership	-0.07 ^a	1													
Deal risk	-0.10 ^a	0.28 ^a	1												
Agency	-0.03 ^c	0.15 ^a	0.11 ^a	1											
Total assets	-0.04 ^a	0.05 ^a	0.24 ^a	0.02	1										
Market cap	-0.04 ^a	0.08 ^a	0.27 ^a	0.00	0.32 ^a	1									
M/B	0.06 ^a	0.01	0.01	-0.02	-0.01	0.01	1								
Leverage	-0.01	0.16 ^a	0.21 ^a	0.09 ^a	0.00	-0.04 ^b	0.05 ^a	1							
Cash	0.00	-0.04 ^a	-0.17 ^a	-0.021	-0.08 ^a	-0.07 ^a	0.01	-0.26 ^a	1						
ROA	0.01	0.17 ^a	0.09 ^a	0.25 ^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	-0.01	-0.07 ^a	-0.01	0.07 ^a	0.01	0.00	0.03 ^b	-0.01	1				
Deal value	-0.06 ^a	0.08 ^a	0.36 ^a	0.04 ^b	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	0.10 ^a	-0.09 ^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	-0.05 ^a	-0.03	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	0.08 ^a	0.03	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	-0.41 ^a	-0.08 ^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 IA2.
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 the 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)
	OLS	OLS	OLS	OLS	WLS
% shares issued	[14%, 26%]	[12%, 28%]	[10%, 30%]	[5%, 35%]	[5%, 35%]
Non-passive institutional ownership	-0.350** (0.145)	-0.316*** (0.116)	-0.258** (0.109)	-0.102 (0.086)	-0.545*** (0.069)
Passive institutional ownership	-1.495 (1.369)	-1.558 (1.141)	-1.340 (0.954)	-1.883*** (0.543)	-1.310** (0.568)
Deal risk	0.087 (0.097)	0.098 (0.081)	0.115* (0.064)	0.090* (0.051)	0.204*** (0.050)
Agency	1.071*** (0.323)	0.893*** (0.283)	0.659** (0.305)	0.692*** (0.204)	1.402*** (0.125)
Other controls	Yes	Yes	Yes	Yes	Yes
Industry/Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	228	301	363	513	513
R-squared	0.519	0.494	0.461	0.445	0.766

Table IA3.
Controlling for cross-ownership

This table replicates the vote avoidance analysis in Table 4 by removing ownership by cross-holders. Cross-ownership is 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 the 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	10 th percentile	Median	90 th 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)
	OLS	OLS	OLS	OLS	WLS
% shares issued	[14%, 26%]	[12%, 28%]	[10%, 30%]	[5%, 35%]	[5%, 35%]
Institutional ownership excluding cross-owners	-0.339** (0.141)	-0.329*** (0.113)	-0.255** (0.103)	-0.112 (0.086)	-0.651*** (0.079)
Deal risk	0.071 (0.087)	0.089 (0.071)	0.106* (0.063)	0.088* (0.051)	0.088 (0.061)
Agency	1.101*** (0.328)	0.939*** (0.286)	0.690** (0.296)	0.723*** (0.198)	1.319*** (0.135)
Other controls	Yes	Yes	Yes	Yes	Yes
Industry/Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	228	301	363	513	513
R-squared	0.514	0.491	0.457	0.435	0.794

Table IA4.
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 IA5.
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. All variables are defined in Appendix A. ***, **, * correspond to statistical significance at the 1, 5, and 10 percent levels, respectively.

Variable	The RD sample (N = 1,250)			The all-stock sample (N = 2,688)			Test of difference	
	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

Table IA6.
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 IA7.
Voting outcome, vote avoidance, and post-merger CEO turnover

This table examines the relation between shareholder voting outcome, vote avoidance, and post-merger CEO turnover. The variable, % vote for, is the ratio of the number of votes for a takeover proposal to the sum of the number of votes for and the number of votes against. CEO turnover is an indicator variable that takes the value of one if a CEO leaves her firm within three years after a merger, and zero otherwise. Panel A presents the summary statistics of % vote for and CEO turnover for deals that require a shareholder vote. Panel B compares CEO turnover between acquirers with high pass (i.e., % vote for above the sample median) and acquirers with low pass (i.e., % vote for below the sample median). Panel C presents the summary statistics of vote avoidance and CEO turnover using the sample from Table 4 with available information. Panel D compares CEO turnover between acquirers that require a shareholder vote and acquirers that avoid a vote. The last two columns in Panels B and D present the tests of differences in means and medians between the two subsamples. 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 of % vote for and CEO turnover

Variable	N	Mean	10 th percentile	Median	90 th percentile	Std Dev
% vote for	97	0.981	0.960	0.994	0.999	0.040
CEO turnover	97	0.351	0.000	0.000	1.000	0.480

Panel B: Comparing CEO turnover between acquirers with high and low pass

Variable	High pass acquirers			Low pass acquirers			Test of difference	
	Mean	Median	Std Dev	Mean	Median	Std Dev	t-test	Wilcoxon test
	(1)	(2)	(3)	(4)	(5)	(6)	(1) - (4)	(2) - (5)
CEO turnover	0.286	0.000	0.456	0.417	0.000	0.498	-0.131*	-0.000*

Panel C: Summary statistics of vote avoidance and CEO turnover

Variable	N	Mean	10 th percentile	Median	90 th percentile	Std Dev
Vote avoidance	168	0.506	0.000	1.000	1.000	0.501
CEO turnover	168	0.315	0.000	0.000	1.000	0.466

Panel D: Comparing CEO turnover between acquirers with and without shareholder voting

Variable	Vote avoidance = 0			Vote avoidance = 1			Test of difference	
	Mean	Median	Std Dev	Mean	Median	Std Dev	t-test	Wilcoxon test
	(1)	(2)	(3)	(4)	(5)	(6)	(1) - (4)	(2) - (5)
CEO turnover	0.265	0.000	0.444	0.365	0.000	0.484	-0.100	-0.000*

about ECGI

The European Corporate Governance Institute has been established to improve *corporate governance through fostering independent scientific research and related activities*.

The ECGI will produce and disseminate high quality research while remaining close to the concerns and interests of corporate, financial and public policy makers. It will draw on the expertise of scholars from numerous countries and bring together a critical mass of expertise and interest to bear on this important subject.

The views expressed in this working paper are those of the authors, not those of the ECGI or its members.

ECGI Working Paper Series in Finance

Editorial Board

Editor	Ernst Maug, Professor of Corporate Finance, Mannheim Business School, University of Mannheim
Consulting Editors	Franklin Allen, Nippon Life Professor of Finance, Professor of Economics, The Wharton School of the University of Pennsylvania Julian Franks, Professor of Finance, London Business School Marco Pagano, Professor of Economics, Facoltà di Economia Università di Napoli Federico II Xavier Vives, Professor of Economics and Financial Management, IESE Business School, University of Navarra Luigi Zingales, Robert C. McCormack Professor of Entrepreneurship and Finance, University of Chicago, Booth School of Business
Editorial Assistants	Tamas Barko, University of Mannheim Sven Vahlpahl, University of Mannheim Vanessa Wang, University of Mannheim

Electronic Access to the Working Paper Series

The full set of ECGI working papers can be accessed through the Institute's Web-site (www.ecgi.org/wp) or SSRN:

Finance Paper Series	http://www.ssrn.com/link/ECGI-Fin.html
-----------------------------	---

Law Paper Series	http://www.ssrn.com/link/ECGI-Law.html
-------------------------	---