Earnings and the Value of Voting Rights*

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Abstract

We examine the impact of earnings announcements on the value of shareholder voting rights (voting premium) estimated using a new technique that exploits option prices. We find the voting premium is negatively related to earnings surprises. This relation is primarily driven by unfavorable earnings surprises. The negative effect of earnings on the voting premium is more pronounced with impending shareholder meetings, shareholder activist involvement, firm performance below industry norms, and is attenuated by lower analyst forecast dispersion, more insider ownership, fewer generalizable assets. Our study highlights the opposing influences of earnings on stock price through voting and cash flow rights.

JEL classification: G34, M41

Keywords: Voting Premium, Control Rights, Earnings Announcements, Corporate Governance

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Earnings and the Value of Voting Rights

Abstract

We examine the impact of earnings announcements on the value of shareholder voting rights (voting premium) estimated using a new technique that exploits option prices. We find the voting premium is negatively related to earnings surprises. This relation is primarily driven by unfavorable earnings surprises. The negative effect of earnings on the voting premium is more pronounced with impending shareholder meetings, shareholder activist involvement, firm performance below industry norms, and is attenuated by lower analyst forecast dispersion, more insider ownership, fewer generalizable assets. Our study highlights the opposing influences of earnings on stock price through voting and cash flow rights.

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Earnings announcements and their impact in capital markets attract considerable attention in the literature and among practitioners. Nevertheless, compared with other information events, earnings announcements seem to provide a surprisingly modest amount of incremental information on the stock returns (Ball and Shivakumar 2008). This suggests that perhaps the primary economic role of earnings in capital markets is to provide a benchmark for assessment and/or settlement of contractual agreements (Watts and Zimmerman 1986; Collins and DeAngelo 1990; Holthausen and Watts 2001). Adverse earnings news may reflect and/or trigger disagreements among investors regarding management of the firms' assets, and increase the chances of a contest for control.

In this study, we bring a new perspective and highlight the relation between the accounting information released in earnings announcements and shareholder voting rights, which are one of the most fundamental contractual rights that shareholders have. In addition to informing investors regarding the risky stream of cash flows (ownership role), earnings influence control rights by providing a benchmark for shareholders to express their concerns with corporate performance and to pressure management for corporate reform (control role).[1] This dual role of earnings naturally maps into the separation of ownership and control that is prevalent in modern corporations (Berle and Means 1932; Manne 1964, 1965; Jensen and Meckling 1976; Fama and Jensen 1983).

It is difficult to discern the control role of earnings because voting rights are hard to isolate from cash flows. We overcome this problem by utilizing a new, market-based, and daily

[1] The lower information costs amid free-riding problems, and the assurance of standards under public scrutiny of the accounting information, may explain the common practice of using earnings as benchmarks for contracts (see, e.g., Li 2010, Christensen and Nikolaev 2012, and Christensen, Nikolaev, and Wittenberg-Moerman 2016).

measure of the value of shareholder voting rights. We test whether this value of voting rights varies with earnings information. Potential conflicts or disagreements among investors about how to run the firm in a world with incomplete contracts make control valuable (Aghion and Bolton 1986, 1992). In particular, the value of voting rights increases with an increased possibility of capital gains from improving the management of the company (Manne 1964; Easterbrook and Fischel 1983; Cox and Roden 2002; Karakaş and Mohseni 2017). We call this phenomenon the "bright side" of corporate control. Accordingly, given that negative earnings announcements are associated with and indicative of inefficiencies in the management of a company, we expect earnings announcements to be negatively related with the value of voting rights.

It is also possible that, as a "dark side" of corporate control, control creates an environment in which managers can extract private benefits.[2] Such private benefits could take several different forms, from excess CEO compensation to non-pecuniary utility created by pride or social capital due to being in charge of a public company. Under this view, earnings announcements would be expected to have a positive correlation (if any) with the value of voting rights, particularly if the consumption of private benefits is significant. Our paper focuses on the bright side of corporate control.[3]

We estimate the value of voting rights by using option prices (hereafter, the *voting premium*), following the method introduced by Kalay, Karakaş, and Pant (2014). Specifically,

[2] We thank Denis Gromb for the "bright side" and "dark side" classifications of corporate control.
[3] For the dark side of corporate control, see, e.g., Karakaş and Mohseni (2017), in which the voting premium is used as a diagnostic tool to address the ongoing debate of whether staggered boards lead to managerial entrenchment problems/inefficiencies. They find that firms with staggered boards on average have a higher voting premium, which is consistent with the entrenchment view of the staggered boards. Our paper complements the work of Karakaş and Mohseni (2017) by illustrating that the market prices the value of the voting premium depending on the governance, performance, and ownership of the firm.

we define the voting premium as the price difference between the stock and the non-voting share that is synthesized using the put-call parity relation, expressed as a percentage of the stock price.[4] The key insight for the method is that option prices reflect the cash flows of the underlying stocks, but not the control rights. This new method, unlike other, common methods of estimating the value of control such as using trades of block shareholders or dual-class stocks, enables us to estimate the voting premium for a large sample of widely held firms and hence is less subject to concerns of selection biases.[5] The voting premium is not driven by non-control-related liquidity concerns, is on average positive, and increases around events in which control is likely to be contested (Kalay, Karakaş, and Pant 2014).

Analyzing 5,223 U.S. public firms over the period 1996 to 2015, and earnings surprises based on seasonal random walk expected earnings, we show that change in the value of voting rights is negatively related to earnings surprises—that is, a firm's voting premium increases with unfavorable earnings surprises.[6] This baseline result showing a negative relation between the voting premium and earnings surprises is robust to controlling for firm size, book-to-market, absolute abnormal returns around the earnings announcements, and firm and year fixed effects, as well as for several liquidity proxies such as stock volume, the Amihud illiquidity measure,

[4] The voting premium reflects the value of the vote to the "marginal investor," which can be incumbent management and/or (potential) outside investors. Throughout the text, we use the terms "the value of voting rights," "the value of control," and "the voting premium" interchangeably to refer to the market value of shareholder voting rights.

[5] The method of estimating the value of control using (i) trades of block shareholder, takes price difference between the share price in a block trade and the general stock price right after the block sale, and (ii) dual-class stocks, takes price difference between superior and inferior voting classes of shares. The voting premium we estimate is conceptually closer to the latter method. This is because our method essentially synthesizes a benchmark stock (i.e., an inferior voting share) using options. See Kalay, Karakaş, and Pant (2014) for a more detailed discussion.

[6] Throughout the paper, we use the change in the voting premium as our main variable of interest. However, our analyses are robust to using the level of the voting premium.

the bid-ask spread, short interest, and institutional ownership.[7]

Our baseline result is driven more by negative earnings surprises than by positive earnings surprises, and is robust to truncating the extreme earnings surprises. We obtain similar results to our baseline findings when we use analyst consensus, as expected earnings in the calculation of earnings surprises, instead of using seasonal random walk earnings.[8] We find that the negative relation of the voting premium with earnings announcements is stronger when there is: (i) a higher dispersion (disagreement) in analysts' earnings forecasts, (ii) less insider ownership (entrenchment) in the firm, (iii) worse managerial performance relative to industry norms (measured by earnings surprise relative to the firm's industry median earnings surprise), and (iv) more generalizable assets (liquidation options/values) in the firm. Our findings are in line with the view that unfavorable earnings reflect, and possibly trigger, potential disagreements among investors regarding the management of the firms' assets and increase the chances of a control contest, which in turn increases the voting premium.

In principle, any unexpected negative news that may increase conflicts and disagreements among investors about how to run the firm (e.g., negative news linked to managerial inefficiencies) can change the voting premium. We focus on earnings in the paper since they provide a relatively clean setting for us to test our ideas primarily because earnings, rather than stock prices, provide a reliable benchmark for dissident shareholders to express their

[7] Repeating our analysis for the universe of dual-class stocks and using the voting premium based on dual-class shares, we continue to find that earnings surprise is negatively related to the voting premium; however, this relation is not statistically significant.

[8] DeAngelo (1988) suggests that market participants largely rely upon simple earnings measures, since more complex earnings measures are likely to be difficult to interpret for most outside shareholders. Hence, we believe that using earnings surprises based on seasonal random walk earnings is more appropriate for our baseline analysis. Nevertheless, we repeat the analysis using analyst consensus as expected earnings to calculate earnings surprise, and find our results to be qualitatively the same, though our sample size decreases considerably with the analyst consensus.

concerns with management regarding corporate performance (DeAngelo 1998; Collins and DeAngelo 1990). In addition, earnings announcements provide well-defined and regularly timed measures, alleviating the concern that companies' choice of a particular announcement time and/or form may be based on certain unobservable factors that are correlated with the value of control. Nevertheless, when we test whether the market prices the voting rights similarly on a *non-earnings-announcement* day that exhibit an equivalent amount of equity return (which we call a "pseudo-earnings-announcement day"), we find that the voting premium increases following negative news in pseudo-earnings announcement days. However, in a horse race between earnings and pseudo-earnings-announcement days, we find that information disseminated on earnings announcement days is perceived to be more important than on days with similar returns during the quarter, in terms of the market's valuation of voting rights. This corroborates our focus on earnings announcements.

The voting premium is markedly higher for firms that have a higher percentage of ownership by active shareholders, and increases around dates of shareholder meetings, particularly when control is contested (Kalay, Karakaş, and Pant 2014). This insight, combined with the findings of DeAngelo (1988) and Collins and DeAngelo (1990), suggests that the voting premium should be particularly responsive to earnings information just before shareholder meetings. Indeed, exploiting 24,903 shareholder meetings between 1996 and 2015, we find that the closer the next shareholder meeting, at which control rights can be exercised, the stronger the effect of earnings on voting premium is. Relatedly, we find the voting premium to increase more strongly following negative earnings surprises at firms that are more subject to shareholder activism. This finding suggests that, consistent with the findings of Brav, Jiang, and Partnoy (2008), shareholder activism plays an important role in disciplining poorly

performing firms. Accordingly, the market prices the value of the voting rights that are critical in exercising control in shareholder activism.

Potential litigations and dividend changes following earnings announcements may create positive and negative biases in our estimations, respectively. We rule out that these possibilities drive our results by confirming our baseline results to hold when we exclude from our sample stocks with earnings announcements accompanied by large price declines (proxying for high litigation likelihood) or stocks paying dividends. In addition, we show that our results are robust to controlling for mispricing/liquidity factors because short-sale constraints may lead to mispricing of securities and violations of put-call parity, which in turn may create a positive bias in our estimations (Ofek, Richardson, and Whitelaw 2004).

A host of studies examine the relationship between option prices/characteristics and stock returns, particularly around major events such as earnings announcements, takeover announcements, and analyst recommendations (see, e.g., Amin and Lee 1997; Cao, Chen, and Griffin 2005; Doran, Fodor, and Krieger 2010; Jin, Livnat, and Zhang 2012; Johnson and So 2012). A common theme in these papers is that informed traders choose to use the options markets before they trade in the underlying stocks, without being explicit about the nature of such private information. Our study complements these studies by offering an economic meaning to the changes in option prices and associated private information around earnings announcements from the perspective of the market for corporate control. Cremers and Weinbaum (2010) interpret put-call parity deviations as evidence of privately informed traders in options markets pushing synthetic stock prices away from traded stock prices and toward the correct value, which in turn implies the predictability of future stock returns. We find that changes in the voting premium around earnings announcements do not predict future stock

returns after controlling for post-earnings-announcement drift, suggesting that the mispricing mechanism in Cremers and Weinbaum (2010) does not drive our results.

Our paper relates and contributes to the literature on corporate governance/control and accounting (see, e.g., DeAngelo 1988; Collins and DeAngelo 1990; Francis, Schipper, and Vincent 2005) by highlighting the control role of the information released in the earnings announcements. To our knowledge, this study is the first to document the opposing influences of earnings on stock price through voting and cash flow rights. Furthermore, this paper deepens our understanding about the determinants of the voting premium, and complements the findings of Kalay, Karakaş, and Pant (2014) by illustrating that earnings surprises play an important role in the documented increases in voting premium around shareholder meetings and following shareholder activism.[9]

1. Conceptual Relation Between the Value of Voting Rights and Earnings

Control rights matter to investors of a given security if investment contracts are incomplete and investors differ in terms of their private benefits, beliefs, expectations, risk aversions, and reputational concerns (Aghion and Bolton 1986, 1992). In particular, voting rights have value if outside shareholders feel the need to use their voting power to exert disciplinary pressure to improve firm performance (Manne 1964; Easterbrook and Fischel 1983; Cox and Roden 2002; Karakaş and Mohseni 2017).

Lower-than-expected earnings would lower investors' assessment of the incumbent

[9] Kalay, Karakaş, and Pant (2014)'s findings that the voting premium changes around shareholder and activism events are not conditional on, or implied by, the most recent earnings surprises.

management's ability to sustain higher profits in the future. Negative earnings surprises also increase investors' anxiety that incumbent management does not possess the ability to turn the company around. In such cases, earning reports would play an important role in determining the existence and nature of competition among different management teams to keep, acquire, or exercise the control over the firm in an attempt to fix/improve the firm's performance (e.g., through a CEO turnover or a takeover). The value of voting rights should increase with the possibility of capital gains from improving the management/performance of the company. Therefore, given that negative earnings announcements are associated with and indicative of inefficiencies in the management of the company, we expect the earnings announcements to be negatively related to the value of voting rights. We expect the effect of earnings announcements on the value of voting rights to be particularly driven after negative earnings announcements, since the effect of positive earnings on the voting premium would be bounded, as the voting premium would be expected to be non-negative.

We would indeed expect not only unfavorable earnings surprises, but any unexpected negative news regarding managerial inefficiency in the firm to increase the value of voting rights. In this paper, however, we focus on earnings news for several reasons. First, earnings announcements provide well-defined and regularly timed measures. This alleviates the concerns that the choice of companies regarding a particular announcement time and/or form may be due to certain unobservable factors that are correlated with the value of control. Second, the earnings reporting process is geared toward uncovering information (particularly bad news) that has not yet been disclosed in other sources (Van Buskirk 2011; Roychowdhury and Sletten 2012). This further confirms that, on average, earnings events are likely to contain information that would matter for the pricing of voting rights. Third, as argued in DeAngelo (1988), earnings

figures are critical/crucial in corporate control contests such as proxy fights, which would directly affect the value of voting rights.

The value of voting rights is also interpreted as a lower bound for private benefits of control (Barclay and Holderness 1989; Nenova 2003; Zingales 1995; Karakaş and Mohseni 2017). However, we assert that such an interpretation of the value of voting rights, the "dark side" of corporate control, is not very relevant for our setting and analysis. First, consumption of private benefits is likely not immediately affected by earnings surprises. Second, private benefits are more likely to decrease than to increase following a negative earnings announcement, which would bias against us finding that earnings and the voting premium are negatively related. Third, levels of private benefits of control are, at least partially, controlled in our tests through control variables and fixed effects.

The value of control depends on the likelihood of a disagreement situation arising and its economic significance, as discussed in Zingales (1995), and hence is time varying. Consequently, throughout our analysis in Section 4, we exploit various settings that shape voting rights to test whether the impact of earnings on voting premium varies over time and across firms.[10] Relatedly, we expect a negative relation between earnings and voting premium as long as control is contestable within the firm, since otherwise the voting premium would be minimal.[11]

[10] Within this framework, starting with Grossman and Hart (1988) and Harris and Raviv (1988), a vast literature analyzes security voting design and points to the importance of shareholder voting rights. See Adams and Ferreira (2008) and Burkart and Lee (2008) for surveys of empirical and theoretical work on optimal security voting design and the value of voting rights.

[11] Firms with options tend to have a large market capitalization and dispersed ownership. Hence the firms in our sample are contestable in the market for corporate control.

2. Estimation of the Voting Premium

To calculate the value of voting rights (i.e., the voting premium) on a daily basis, we follow the method described by Kalay, Karakaş, and Pant (2014). This method relies on the notion that option prices essentially derive their value from the cash flows of the underlying stocks, but not from the control rights. Thus, if we subtract the price of a non-voting stock synthesized using options, $\hat{S}$, from that of the underlying stock, S, we obtain the value of voting rights embedded in the stock. Because stock prices are nominal values, normalizing the above-mentioned price differential by the price of the underlying stock gives us a measure for the value of the voting rights that can be used to compare over time and across companies. More formally, assume that $\hat{S}$ is calculated using put-call parity for an option pair with the same maturity T and strike price X, and is adjusted for the early exercise premiums (EEPs) of American options and for dividends (*DIVs*) paid before the options mature—that is,

$$\hat{S} = C - P + PV(X) + adjustments\ for\ EEPs\ and\ DIVs, \quad (1)$$

$$Voting\ Premium = (S - \hat{S})\ /\ S, \quad (2)$$

where C and P are the American call and put option prices, respectively, and $PV(X)$ is the present value of investing in a risk-free bond with face value X that matures at time *T*.

Kalay, Karakaş, and Pant (2014) show that neither stock or option liquidity nor non-control-related frictions drive the changes in the voting premium. In addition, they show that the voting premium is positive on average and increases around events that matter more for control rights. These events include special shareholder meetings and/or meetings with close

votes, episodes of hedge fund activism (particularly with hostile engagements), and merger and acquisition events.

An important advantage of the method we employ is that we can estimate the market value of voting rights for a large number of widely held public firms. The two other common ways to calculate the value of control in the literature are: (i) using price difference between the share price in a block trade and the general stock price right after the block sale, and (ii) using price difference between superior and inferior voting classes of shares. The former method requires a block sale event, which may not be easily observable for a large subset of stocks for an extended period of time.[12] Moreover, measuring the value of control is not possible if the controlling block is not transferred. In addition, block sales are often triggered by events that may introduce potential selection biases. The latter method requires firms to have at least one other type of stock with different voting rights, and there are few firms with dual-class shares in which both classes of shares are publicly traded.[13] Moreover, even if both classes of shares are publicly traded, one might be less liquid than the other. More importantly, these samples are potentially subject to selection biases (DeAngelo and DeAngelo 1985; Smart and Zutter 2003). Indeed, Francis, Schipper, and Vincent (2005) find that earnings are generally less informative for dual-class firms, compared with single-class firms.

Our method provides a way to explore how the value of voting rights behaves when a block sale event is not present and/or when a dual-listed stock does not exist. Our method of estimating the voting premium is conceptually closer to the method using dual-class shares.

[12] See, e.g., Barclay and Holderness (1989) and Dyck and Zingales (2004).
[13] See, e.g., Lease, McConnell, and Mikkelson (1983), Levy (1983), Zingales (1994), Zingales (1995), Rydqvist (1996), Nenova (2003), Hauser and Lauterbach (2004), and Karakaş (2010).

This is because our method essentially synthesizes a benchmark stock (i.e., an inferior voting share) using options. There is an important technical difference between the two approaches: the maturity of the non-voting synthetic stock is finite in our method, whereas it is infinite for the inferior voting share in the dual-class method. This difference, ceteris paribus, would naturally lead to a higher voting premium measured with the dual-class method relative to ours. Comparing the two measures in a sample of firms with dual-class shares and options traded on superior classes of shares, Kalay, Karakaş, and Pant (2014) show that the voting premiums estimated from both methods are strongly positively correlated.

Absent any non-control-related frictions, by no-arbitrage, the value of voting rights would also be reflected in the equity lending markets. Indeed, one could obtain the votes by borrowing the stocks. Hence, another method to estimate the value of control is using the borrowing costs such as equity lending fees (Aggarwal, Saffi, and Sturgess 2015). The equity lending market is a negotiated, decentralized, and opaque market, and the value of voting rights inferred from equity lending fees can be significantly downward biased, as discussed in Kalay, Karakaş, and Pant (2014).

3. Sample Description

We use the OptionMetrics database for the calculation of daily voting premium. OptionMetrics is the standard data set used for studies on options and provides data on U.S. equity options starting from 1996. This database provides end-of-day bid and ask quotes, trading volume, open interest, and option-specific data (e.g., implied volatility, maturity, strike price) for all American call and put options on stocks traded on U.S. exchanges. It also provides

the stock price and dividends of the underlying stocks and zero-coupon interest rates.

Voting premium calculation requires availability of option prices (both put and call). Following Kalay, Karakaş, and Pant (2014), we form option pairs to construct the synthetic stock. An option pair consists of matched call and put options written on the same underlying stock and with identical strike price and time to maturity. We discard option pairs for which the quotes for either the call or the put options are locked or crossed. The option prices are taken as the midpoints of the bid and ask quotes, which are the best closing prices across all exchanges on which the option trades. Since the options are all American style, we compute the early exercise premium for the put and the call using the binomial option-pricing model.

In our calculations, we use the most liquid option pair for each firm-day. The most liquid option pair for each firm at each day is defined as the one with the highest volume (minimum volume of call and put), closest at the money and shortest maturity. We use only the options with positive volume. Using the closest-at-the-money options also minimizes the potential downward biases in the voting premium due to the early exercise possibilities of the American options (see Kalay, Karakaş, and Pant 2014 for a more detailed discussion).

Because our method requires the availability of option contracts to calculate the voting premium, we exclude stocks with no option contracts from our sample. For the stocks with option contracts, if we cannot calculate the voting premium for a given day, we assume it is zero for that particular date. As an alternative approach, we impute an average voting premium from an earlier period, which does not change our results or conclusions (see footnote 16).

We use several other databases to obtain further information on firms for which we have daily voting premium estimates. We use CRSP to obtain daily stock prices, which help us

measure the market response to earnings announcements in terms of stock return and volatility, and also to calculate liquidity proxies such as stock volume, Amihud illiquidity, and bid-ask spread. Using the Compustat quarterly database, we identify the earnings announcement dates, earnings amount, and short interest, as well as stock characteristics such as firm asset size, book-to-market ratio, research and development (R&D) intensity, and accruals. We use the IBES Guidance database to identify firms that provide earnings guidance to the marketplace, and IBES to obtain analyst forecasts of earnings. We obtain shareholder activist ownership data from 13D filings available at SEC's EDGAR filing system, and institutional ownership data from the Thomson Reuters 13F database. We obtain annual meeting dates from the ISS (formerly RiskMetrics) database. We identify stocks that are difficult/costly to short (i.e., special stocks) by using the equity lending fees available in the Markit database. Finally, we obtain insider ownership data from Incentive Labs.

Throughout the paper, we use earnings surprises based on seasonal random walk earnings. With this setup, our baseline sample includes all the firms that have an earnings announcement available four quarters ago, and the four-quarter lagged earnings values provide the benchmark for earnings expectations. DeAngelo (1988) suggests that market participants largely rely upon simple earnings measures, since more complex earnings measures are likely to be difficult to interpret for most outside shareholders. Hence, we believe using earnings surprises based on seasonal random walk earnings is more appropriate for our baseline analyses. Nevertheless, we repeat and report our baseline analysis using analyst consensus as expected earnings to calculate earnings surprise, and we find our results to be qualitatively the same, though our sample size decreases considerably with the analyst consensus (see Section 4.3).

(~Insert Table 1 about here~)

Our main sample covers 5,223 U.S. public firms over 1996–2015. In Table 1, Panel A, we report summary statistics of the variables we utilize in our study. Firm equity *size* is the product of number of shares outstanding and the price at the end of calendar year prior to the fiscal year. The pooled average (median) market value of equity in our sample is $2.47 billion ($2.12 billion). *Book-to-Market* is the book-to-market ratio for which the book value of equity is calculated as sum of stockholders' equity, deferred tax, and investment tax credit minus preferred stock. The book-to-market ratio of the sample has a mean (median) of 0.388 (0.416). We measure the market response to quarterly earnings announcement as the absolute value of cumulative return (–2,+2) trading days around the quarterly earnings announcement date. Mean (median) of absolute market response is 7.3% (5.1%).[14] The *change in the voting premium* is the average voting premium around the quarterly earnings announcement (*t–2, t+2*) minus the average voting premium before the earnings announcement (*t–45, t–15*), where *t* is the earnings announcement date and the windows are defined in trading days. The change in voting premium of the sample has a mean (median) of 0.031% (0.014%). Given that the median maturity of options in our sample is 57 days, a simple back-of-the-envelope calculation suggests that the annualized mean (median) change in the voting premium is about 0.20% (0.09%).[15]

Table 1, Panel B, shows the correlation matrix of key variables in the pooled sample. Pearson (Spearman) correlations are reported below (above) the main diagonal. The earnings surprise measure is significantly and negatively correlated with the change in the voting premium. This provides preliminary support for our main thesis that the voting premium

[14] Throughout the tests, announcement day refers to the (–2,+2) trading-days window around the earnings announcement day.

[15] The voting premium for options with maturity *T* can be annualized using the following formula: $1 - (1 - \textit{voting premium})^{365/T}$ (see Kalay, Karakaş, and Pant 2014 for more details).

increases if the firm announces lower-than-expected earnings.

4. Analysis

We present our baseline regression analysis in Table 2. The dependent variable for all three regressions is the change in the voting premium. Throughout the paper, we use the change in the voting premium as our main variables of interest.[16]

Our main dependent variable is the *earnings surprise*, which is calculated as the difference between reported earnings per share and the expected earnings (earnings per share reported four quarters ago), scaled by price at the beginning of the year. Because larger firms may differ from smaller firms with respect to the corporate control market (Nenova 2003), we control for the size of the firm. We also include proxies for growth of the firm (book-to-market), since growing firms could be more subject to a control contest (Chemmanur, Paeglis, and Simonyan 2011). Finally, we include absolute announcement returns to make sure that our results are not driven by non-control-related volatility of the stock. We include firm fixed effects to capture unobserved time-invariant firm-specific factors that could be related to changes in the voting premium, and year fixed effects to capture variation in voting premium changes specific to each year.

(~Insert Table 2 about here~)

[16] The 30-day period ending 15 days prior to the earnings announcement *(t–45, t–15)* is our benchmark window to measure the level of the voting premium during a non-earnings event window. Our analyses are robust to (1) using a different benchmark window closer to the earnings announcement *(t–15, t–5)* (Appendix Table 1, Regressions 1–3); (2) imputing the average voting premium in non-earnings event windows in year *t–1* if the voting premium is missing any day in year *t* (Appendix Table 1, Regression 4); and (3) using the level of the voting premium (Appendix Table 1, Regression 5).

We find a negative relation between the change in the voting premium and the earnings surprise. As shown in Table 2, the coefficient of the earnings surprise is statistically significant in all the regressions. A one-standard-deviation decrease in earnings surprise corresponds to about a 0.023 to 0.025 percentage point increase in the change in the voting premium (*t*-statistics vary from –2.85 to –3.04), depending upon the specification (Regressions 1–3). Compared with the sample mean change in the voting premium (0.031%), and taking the large size of the firms in our sample into account, this amount is economically sizable.

In Regressions 4 and 5, we use medium-term options with expirations between 45 days and 180 days and long-term options with expirations of more than 180 days, respectively. Despite the decrease in the sample size, we find the coefficient of interest to be statistically stronger and the specification to have higher R^2, compared with Regressions 1–3. Note also that the coefficient of interest for long-term options in Regression 5 is higher in absolute terms than the coefficient of interest for our baseline result in Regression 3 (–0.206 vs. –0.152). This is intuitive since the method captures the voting premium within the maturity of the options used, and in line with the findings of Kalay, Karakaş, and Pant (2014) that the voting premium increases with the maturity of the options used to synthesize the non-voting share.

4.1. Robustness of Baseline Results

When we calculate the voting premium, we adjust for dividend payments within the maturity of the options utilized. However, firms that experience a negative earnings shock are more likely to cancel such dividends (DeAngelo and DeAngelo 1990), which in turn may introduce a negative bias in the voting premium. This potential bias is less of a concern since it would work against us finding the results we did. Regardless, in Regression 1 in Panel A of Table 3, we restrict our sample to stocks that do not pay any dividends and repeat our tests,

finding that our results are not affected if we remove dividend-paying stocks from the sample.

(~Insert Table 3 about here~)

Francis, Schipper, and Vincent (2005) find that earnings are generally less informative for dual-class firms, compared with single-class firms. Firms with dual-class shares constitute about 6% of the number of public firms in the United States. Dual-class firms are subject to sample selection biases, and superior voting shares tend to suffer from low liquidity (Gompers, Ishii, and Metrick 2010). To check whether some unobserved factors that determine the choice of being a dual-class stock matter for the relation we document, we exclude firms that have dual-class stocks (about 1.17% of our sample observations) from our sample (Panel A of Table 3, Regression 2). We find that our results remain similar to our baseline findings.

Under the scenario of litigation risk, unexpected bad earnings may lead to firms being sued due to substantial drops in their stock prices (Skinner 1997). To examine the potential impact of litigation risk on the voting premium through earnings announcements, in the spirit of Francis, Philbrick, and Schipper (1994), we identify earnings announcements followed by large negative stock price responses (less than –10% five-day earnings announcement returns) in the third regression of Panel A of Table 3. By doing so, we essentially determine the earnings announcements that are more likely to be used as reasons to sue the firm in a class action.[17] Unexpected bad earnings often lead to large drops in stock prices (Bernard, Thomas, and Abarbanell 1993). If a firm is more likely to be sued due to these sizable drops, then shareholders who own the stock at the time of the announcement retain the rights to claim

[17] Stock returns are a strong predictor of litigation (Palmrose and Scholz 2004, and Donelson et al. 2012). Our results in Regression 3 at Panel A of Table 3 are not sensitive to the particular choice of the –10% cutoff.

potential future settlements. Under this scenario, future expected settlement payments can increase the value of control rights today, precisely when the unexpected bad earnings hit the market. To investigate whether this plausible alternative mechanism plays a role in our documented relationship between the voting premium and earnings announcements, we repeat our analysis after excluding earnings announcements that are accompanied by large price declines. We find that our baseline result remains robust (in fact, becomes stronger) for the rest of the stocks, and hence is unlikely to be driven by potential litigation risks.

In Panel B of Table 3, we find that our baseline results are robust to truncating the extreme observations of earnings surprises at the 2.5th and 97.5th percentiles (Panel B of Table 3, Regression 1). When we analyze the earnings surprises in a piecewise regression with indicator variables for top (bottom) 2.5% of the earnings surprise distribution, we find that our results are driven more by the bottom earnings surprises (Panel B of Table 3, Regression 2). Analyzing the earnings surprises in a piecewise regression by terciles of earnings surprises, we find that our results are driven more by the bottom tercile of earnings surprises (untabulated).

4.2. Voting Premium and Liquidity

An alternative interpretation of our results is that short-sale constraints (i.e., limits to arbitrage) could cause the put-call parity deviations (Ofek, Richardson, and Whitelaw 2004), and that our results simply suggest put-parity deviations increase when earnings surprises are negative. To investigate whether shorting difficulties drive our results, we perform a battery of tests. First, we include several liquidity proxies such as stock volume, Amihud illiquidity measure, bid-ask spread, short interest, and institutional ownership (and their squares) as control variables to our baseline specification (including these variables one by one or all together does not change our results). The results reported in the first column of Table 4 show

that the coefficient of the earnings surprise is close to the baseline results and is statistically significant. Next, in the last three specifications of Table 4, we exclude special stocks from our analysis, where a stock is defined to be a special stock if its three-day average indicative equity lending fee is above 100 basis points, and find that our baseline results continue to hold for the set of stocks for which shorting activity is not severely constrained. In untabulated analyses, we also control for equity lending fees (change in equity lending fees) and find that our baseline result survives, though equity lending fees (change in equity lending fees) are also significantly and positively related to the voting premium.

The above findings are important since they address a fundamental disagreement in the literature regarding the notion of mispricing interpretation of put-call parity deviations. Because the voting premium is a product of the no-arbitrage principle underlying the put-call parity, our findings suggest that put-call parity deviations around earnings announcements are related to earnings news even after controlling for non-control-related frictions.

(~Insert Table 4 about here~)

In our next set of analyses, we investigate whether the vote premium changes around the earnings announcements predict future stock returns. Cremers and Weinbaum (2010) argue that deviations from put-call parity contain information about future stock returns. Their main argument is that the put-call parity deviations are predictive of future stock returns (on both the short side and the long side) not because of the noise or short-sale constraints, but because of the trading activity of informed investors trading first in the options market. They find positive (negative) abnormal stock returns for stocks with relatively expensive calls (puts), which cannot be explained by short-sale costs. Cremers and Weinbaum (2010) document the degree of

predictability to be high when option liquidity is high and when stock liquidity is low, and to be minimal in the opposite case. They also find the degree of predictability to decrease over time and interpret their findings as evidence of privately informed traders in options markets pushing synthetic stock prices away from traded stock prices and toward the correct value. We perform a similar analysis using our sample that focuses on earnings announcement dates. In this analysis, we pay special attention to the previously documented relationship between earnings surprises and future stock returns (i.e., post-earnings-announcement drift) and focus on voting premium changes that are not directly attributed to earnings surprises—that is, residual of voting premium changes. We find that, unlike Cremers and Weinbaum (2010), changes in the residual voting premium around the earnings announcement do not predict future equity returns (Appendix Table 2), and our effect becomes stronger over time, and strongest (weakest) when the stock and option liquidity are high (low) (Appendix Table 3). This suggests that our findings are unlikely to be driven by the mispricing mechanism analysed in Cremers and Weinbaum (2010).

4.3. Extensions of Baseline Results

We find results similar to our baseline results when we employ an alternative earnings surprise measure constructed using consensus analyst forecasts to determine expected earnings, though the sample size decreases considerably with analyst consensus (Table 5, Regression 1). We obtain the consensus forecast data from the IBES Summary forecast file. To reduce the influence of having forecasts from too few analysts, we only use forecast consensuses that had more than four analysts. Compared with our main sample, companies that have analysts following them are, on average, larger in size, and have a lower voting premium and lower earnings announcement day return volatility (untabulated).

(~Insert Table 5 about here~)

We also repeat our analysis for the universe of 195 dual-class firms using the voting premium obtained from dual-class shares. To make the voting premium from dual-class firms comparable to our voting premium from options prices, in the spirit of Zingales (1995), we use the following formula:

$$Dual\text{-}Class\ Voting\ Premium = [(P_S - P_I) \,/\, (P_I - rP_S)] \ * \ [(P_I \,/\, P_s)], \qquad (3)$$

where P_S and P_I are the prices of superior and inferior voting shares, respectively, and r is the relative number of votes of an inferior voting share versus a superior voting one.

We find that, consistent with our results utilizing the voting premium, earnings surprise is negatively related to the voting premium from dual-class firms; however, this relation is not statistically significant (Table 5, Regression 2). The statistical insignificance of our estimates with the voting premium from dual-class firms could be, in line with Gompers, Ishii, and Metrick (2010) and Francis, Schipper, and Vincent (2005), due to relatively low sample size (and hence the low power in our tests), and/or to dual-class firms' earnings being less informative and not very generalizable.

The earnings reporting process is geared toward uncovering information (particularly bad news) that has not yet been disclosed in other sources (Van Buskirk 2011; Roychowdhury and Sletten 2012). While we cannot perfectly ensure that the earnings news on the actual announcement date is completely a surprise to the market, we can check whether the market prices the voting rights similarly on a *non-earnings-announcement* day that exhibits an equivalent amount of equity return (we call it a "pseudo-earnings-announcement day").

Consequently, in Regression 3 of Table 5, we test whether variation of the voting

premium on an actual earnings announcement day is different from that of a random date with a similar-size equity return within the preceding quarter. In other words, imagine a security that has the *same* equity return on two separate days: a random day in the given quarter, and the actual earnings announcement day of the same quarter. If we compare the voting premiums on these two days, we essentially ask whether earnings are perceived to be different by the market in explaining voting premiums, examining the set of events that created similar returns in the same quarter. Using a diff-in-diff design, if we find that the voting premium reacts stronger on actual earnings announcement days compared with pseudo-earnings-announcement days, then that would suggest that earnings announcement dates are particularly special/influential days for corporate control purposes. This could be because earnings are deemed more credible by investors in evaluating the firm's performance and/or because other information disseminated around the earnings announcement, such as actual financial statements that contain detailed information to supplement the earnings information, is relevant for control purposes.

To implement this experiment, we identify pseudo-earnings-announcement days by comparing the stock returns on earnings announcement days to stock returns of other days prior to the actual earnings announcement day. To increase match quality, we consider only days that are within 5% of actual earnings announcement returns and denote the day that has the return closest to the actual earnings announcement return as the "pseudo-earnings announcement day." The options market can be more active right before the earnings announcement (Amin and Lee 1997). In cases where the voting premium is missing for the pseudo-earnings-announcement day, we use the mean voting premium of the corresponding firm.[18] The evidence in Regression

[18] Our results are similar if we use the median voting premium instead of the mean voting premium.

3 of Table 5 suggests that information disseminated on earnings announcement days is generally perceived to be more important than that on pseudo-earnings-announcement days to explain the market's valuation of control rights.[19] This is consistent with the conclusion of Collins and DeAngelo (1990, p. 237) in their analysis of the earnings and proxy contests: "…the prominent role of reported earnings in the corporate governance process reflects their increased usefulness to investors attempting to evaluate managerial performance and/or to predict the contest outcome."

In the last specification of Table 5, we replace our seasonal random walk earnings surprise measure with a relative performance metric. We calculate the relative performance metric by subtracting the industry median earnings surprise from the firm's earnings surprise. We find that the coefficient of relative performance is larger than that of the earnings surprise in our baseline regression, consistent with the view that the market prices the value of the voting rights lower when the earnings performance (and related managerial inefficiencies) is accompanied by poor performance in the industry. In other words, our results suggest that the market, on average, can and does disentangle luck and skill in the management of the firm.

4.4. Shareholder Meetings

Markets respond to the information content of earnings more when there is greater uncertainty about a firm's future prospects (Lang 1991). The uncertainties regarding the firm's prospect and disagreements among investors about how to run the firm also make control valuable (Aghion and Bolton 1986, 1992). The timing of the meetings, content, and voting outcomes of the proposals play important roles in the mechanism of the real effects of earnings

[19] We find that, akin to the earnings announcement days, the voting premium reacts negatively to the stock price changes in pseudo-earnings announcement days as well (untabulated).

in exercising control. The voting premium increases around shareholder meetings, particularly when the control is contested (Kalay, Karakaş, and Pant 2014). Dissident shareholders attempting to unseat management through proxy contests typically cite poor accounting performance as evidence of managerial incompetence (DeAngelo 1988). Taking all these insights into account, and to the extent that an upcoming shareholder meeting heightens investor uncertainty and earnings reports are useful in resolving that uncertainty, we expect that voting premium reactions to earnings should be especially strong before shareholder meetings.

(~Insert Table 6 about here~)

To test this prediction, we augment the baseline specification to incorporate the timing of upcoming shareholder meeting. Using the shareholder meeting dates reported in the ISS (formerly RiskMetrics) database, we assign the indicator variable for *close distance (I_CD)* a value of one if the next shareholder meeting is within 30, 25, 20, 15, 10, and 5 days of the earnings announcement in Regressions 1 to 6, respectively, and a value of zero otherwise. We include an interaction term for earnings surprise *(ES)* and the indicator variable for the shareholder meeting that takes place close to an earnings announcement, *(ES x I_CD)*, to capture the incremental variation caused by an earnings surprise combined with the shareholder meeting that takes place within the following month.

Consistent with our hypothesis, we find the effect of earnings on the voting premium to be stronger when the next shareholder meeting, at which control rights can be exercised, is closer (Table 6). There is almost a monotonic increase in the absolute value of the coefficient of interest from –0.225 for the specification with close distance defined as 30 days to the meeting (Regression 1, Table 6) to –0.307 for the specification with close distance defined as

5 days to the meeting (Regression 6, Table 6). In Regression 7 of Table 6, we repeat the specification in Regression 6 with the long-term options, where we only use options with maturity greater than 180 days. This makes sure that the meetings did happen within the maturity of the options and confirms our results with a coefficient that is greater in absolute magnitude and in statistical significance.

4.5. Interaction Analysis

The uncertainties regarding the firm's prospect and disagreements among investors about how to run the firm are a major source of the value of voting rights (Aghion and Bolton 1986, 1992). Using analyst forecast dispersion (range of forecasts for stocks with more than four analysts), we confirm this insight: in the presence of a bigger disagreement (dispersion), the voting premium is higher and its negative relation to the earnings announcements is stronger (Table 7, Regression 1).

(~Insert Table 7 about here~)

Earnings surprises could be due to managerial inefficiencies, or to the performance of the industry that the firm operates within (or both). We would expect our baseline finding of a negative relation between earnings surprises and the voting premium to be stronger for the former than for the latter. In Regression 2 of Table 7, we find evidence consistent with this expectation: the effect of earnings on the voting premium is stronger when the firm's earnings surprise is below the median earnings surprise for its industry. Buttressing our findings in Regression 4 in Table 5, this result suggests that the market (for corporate control) on average can disentangle the managerial inefficiencies due to managers' fault versus due to the industry, and accordingly price the value of the vote.

The voting premium increases in the presence of shareholder activism (Kalay, Karakaş, and Pant 2014). With this insight, we test whether our main finding that there is a negative relation between earnings announcements and the voting premium is stronger when active shareholder involvement is higher. Consistent with the findings of Kalay, Karakaş, and Pant (2014) and also with our results around shareholder meetings in Section 4.4, we find that the effect of earnings announcements on the voting premium is stronger when the percentage of ownership by activist shareholders in the firm is higher (Table 7, Regression 3). This suggests that shareholder activism plays an important role in disciplining poorly performing firms.

The voting premium captures the marginal value of the vote given the performance, governance, and ownership structure of the firm. If the firm is management controlled, then we would expect our baseline result to be muted.[20] Our findings in Regression 4 of Table 7 support this prediction: the negative effect of earnings surprise diminishes with insider ownership.

Next, we use the asset structure of firms to distinguish whether the voting premium varies across firms in the cross-section. Owners of firms occasionally resort to liquidation of firm assets if they cannot bear predictable losses. Such a liquidation option would, ceteris paribus, be more valuable for firms with generalizable assets, because these assets fetch a higher value when they are sold in a fire sale (Shleifer and Vishny 2011). Relatedly, Hayn (1995) shows that when future cash flows become disappointing, stock prices do not fall as much they should, suggesting that shareholders would prefer to liquidate a firm rather than bear predictable losses. For firms with a higher liquidation option, we expect the voting premium to respond

[20] In the very extreme case of firms with uncontestable management (e.g., management having share ownership more than 50%), the voting premium and the effect of earnings surprises on the voting premium would be minimal. Firms with options tend to have a large market capitalization and dispersed ownership. Hence the firms in our sample are contestable in the market for corporate control.

more strongly to unfavorable earnings surprises. Berger, Ofek, and Swary (1996) show that the value of the firm's generalizable assets does not decline as much as the value of its specialized assets.

To capture whether a firm has generalizable assets, we use the R&D-to-sales ratio, which is often used as a measure of R&D intensity (Cohen, Diether, and Malloy 2013). We use the R&D-to-sales ratio as our asset generalizability measure with the assumption that R&D creates firm-specific know-how—ceteris paribus, assets of firms with higher R&D spending will have lower deployability in the secondary market for others. Consistent with our hypothesis, we find that the voting premium responds much more strongly to negative earnings news when the firm does not have higher R&D spending and when the firm has more tangible assets (Table 7, Regression 5). Consistent with our results, Feldhütter, Hotchkiss, and Karakaş (2016) find that the creditor voting premium in bonds matters more for firms with more tangible assets.

It is important to note that the liquidation, or abandonment, option value and the voting premium are related but separate concepts, though both of them imply predictions of stock price changes in the same direction. The former refers to the cash flows of the underlying security, whereas the latter refers to the control/voting rights. Cash flow and control rights are typically not separated in earlier studies, in part due to the lack of a broadly applicable measure of the value of voting rights. Changes in the voting premium can potentially explain some of the reported liquidation option values in the stock prices. In fact, consistent with Hayn (1995), we find the response of the voting premium to earnings surprises to be driven more by negative earnings surprises (Panel B of Table 3, Regression 2). The (potential) changes in the abandonment option value cannot explain the voting premium, since any change in the cash

flows of the underlying security is also identically reflected in the synthetic security created using options, due to the no-arbitrage principle.

5. Conclusion

Corporate control is a first-order issue in capital markets; however, its tie to financial reporting is not well understood, in part due to the lack of a broadly applicable measure of the value of voting rights. An important contribution of this study is to bring a new perspective, and to highlight the control rights implications of certain accounting information by focusing on the value of voting rights and earnings announcements. Using a new methodology that utilizes option prices, we estimate the value of voting rights for a large set of widely held public firms, and we show that the value of voting rights increases when a firm announces unexpectedly negative earnings. To the best of our knowledge, this study is the first to point out that accounting disclosure has direct effects on the value of voting rights in a share.

Although we focus on the earnings announcements in this study, we believe our insight and technique of separating the cash flow and voting components of the stock can be applied to other important corporate governance/control and accounting disclosure issues. This might help explain some of the observed empirical regularities in the literature such as the asymmetric stock price reaction to earnings surprises that is usually linked to liquidation/abandonment option values in the stock prices. Whether such an explanation is empirically important remains to be tested and is beyond the scope of this paper. Our main effect would indeed apply not only to unfavorable earnings announcements, but to any unexpected negative news regarding the management of the firm. Our paper is the first step in this relationship. We leave it to further

research to investigate the dynamics of the voting premium and stock prices in the presence of negative news.

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Appendix A. Variable Definitions

Variable name	Definition
Voting Premium (%)	*Voting Premium* (*VP*) is calculated as the difference of actual stock price (*S*) and the implied stock price (*S'*) of the synthetic long position constructed using American options as follows: long a call option, short a put option with the same strike *X* and time to maturity *T*, invest the proceeds in a bond with face value *X* for time *T*, and adjust for early exercise premiums of American options and for dividends before the options mature. We define *Voting Premium* as the ratio of this difference to actual stock price, i.e., *VP = (S–S')/S*, and present it in percentage figures (Kalay, Karakaş, and Pant 2014). We define two additional variables by restricting the option universe to two groups, based on the maturity of the options: *Voting Premium: Med. Term* refers to the voting premium calculated over a medium-term maturity using only the options that expire between 45 days and 180 days. *Voting Premium: Long Term* refers to the voting premium calculated over a long-term maturity using only the options with expiration days greater than 180 days. Data for the voting premium are obtained from OptionMetrics.
ΔVoting Premium (%)	Our main variable of interest, *ΔVoting Premium* (*ΔVP*), is based on changes in *Voting Premium*. We define this measure as the average voting premium around the quarterly earnings announcement (*t–2*, *t+2*) minus the average voting premium before the earnings announcement (*t–45*, *t–15*), where *t* is the earnings announcement date and the windows are defined in trading days.
ΔVP (EA) – ΔVP (PEA) (%)	We define *ΔVP (EA) – ΔVP (PEA)* as the difference of the *ΔVoting Premium* around the earnings announcement (*EA*) day and the *ΔVoting Premium* around the pseudo-earnings announcement (*PEA*) day. The pseudo-earnings-announcement day (or pseudo-event) is identified by comparing the stock return on earnings announcement to stock returns of other days prior to the actual earnings day within the preceding quarter. To increase the quality of matching, we use the day that has the return closest to the actual earnings announcement return, which we call the "pseudo-earnings-announcement day."
Earnings Surprise	*Earnings Surprise* (*ES*) is measured by the difference between reported earnings per share and the expected earnings, scaled by stock price 30 days prior to the earnings announcement day.
Earnings Surprise (Main sample)	In our main sample, and throughout our analysis (unless otherwise stated), expected earnings are the earnings per share reported four quarters ago. Data for earnings are obtained from Compustat.
Earnings Surprise (Analyst subsample)	In the analyst subsample (Table 5, Regression 1), we use the consensus analyst forecast, obtained from IBES, as the expected earnings. The consensus forecast is the consensus earnings estimate provided by more than four analysts. We scale the earnings surprise measure in the analyst sample by 10 to make figures comparable to those of our main sample.

Size (Ln)	*Size* is the number of shares outstanding (*CSHO*) multiplied by the market value of equity, calculated as the price end of the calendar year prior to the fiscal year (*PRCC_C*), and is utilized in natural logarithm. Relevant data are obtained from Compustat.
Book-to-Market (Ln)	*Book-to-Market* is the book-to-market ratio where the book value of equity is calculated as the sum of stockholders' equity (*SEQ*), deferred tax (*TXDB*), and investment tax credit (*ITCB*) minus preferred stock (*PREF*), and is utilized in natural logarithm. Relevant data are obtained from Compustat.
Absolute Announcement Return	*Absolute Announcement Return* (*AAR*) is the cumulative return (–2,+2) trading days around the quarterly earnings announcement (i.e., around *the earnings announcement period*), and is utilized in absolute values. Relevant data are obtained from CRSP.
Amihud Illiquidity	*Amihud Illiquidity* is the average of the stock's (*Return/Volume*) over the earnings announcement period. Relevant data are obtained from CRSP.
Bid-Ask Spread	The *Bid-Ask Spread* is the average of the stock price's *(Bid – Ask)/[(Bid + Ask)/2]* over the earnings announcement period. Relevant data are obtained from CRSP.
Short Interest	*Short Interest* is the percentage of stocks shorted as of the end of the most recent quarter prior to the earnings announcement. Relevant data are obtained from Compustat.
Special Stock	A stock is a special stock if its three-day average indicative fee is above 100 basis points. We use the Markit database to obtain daily indicative fee information.
Volume	*Volume* is the average of the stock's trading volume scaled by market value of equity over the earnings announcement period. Relevant data are obtained from CRSP.
Close Shareholder Meeting Dummy (X)	The *Close Shareholder Meeting Dummy* takes a value of one if the next shareholder meeting is within *X* days of the earnings announcement, and zero otherwise. Voting outcome and shareholder meeting data are obtained from ISS.
R&D Expense over Revenue	*R&D Expense over Revenue* is the research and development expense to annual revenue, which is the ratio of annual research and development expense to annual revenue. Relevant data are obtained from Compustat.
Institutional Ownership	*Institutional Ownership* data are obtained from the Thomson Reuters Institutional Holdings (13F) Database, which reports the total holdings of each institution.
Insider Ownership	*Insider Ownership* is the percentage of all shares (both direct and beneficial) controlled by all the insiders reported in the Incentive Labs between 2000 and 2013.
Activism	We first count all the 13-D filings, obtained from SEC's EDGAR filing system, for a given calendar year for each two-digit SIC code and then divide this count by the number of firms to create an industry-level activism measure.
Forecast Dispersion	*Forecast Dispersion* is the range of IBES's quarterly earnings forecast scaled by price. We use forecasts only if the number of analysts issuing forecasts for the stock is more than four.

Table 1. Descriptive Statistics

This table presents the summary statistics for our sample. Panel A reports the summary statistics for the main sample, which consists of U.S. public firms in the period 1996–2015. The unit of observation is firm-quarter. All variables are as defined in Appendix A. Panel B reports the correlation matrix. Pearson (Spearman) correlations are reported below (above) the main diagonal.

Panel A. Main Sample (100,634 observations; 5,223 firms)

	Mean	St. Dev.	1st Quartile	Median	3rd Quartile
ΔVoting Premium (%)	0.031	0.838	–0.108	0.014	0.152
ΔVoting Premium (%): Med. Term	0.068	0.744	–0.092	0.026	0.174
ΔVoting Premium (%): Long Term	0.179	1.389	–0.142	0.060	0.318
Earnings Surprise	–0.004	0.152	–0.009	0.002	0.011
Size (Ln)	7.813	1.614	6.647	7.661	8.869
Book-to-Market (Ln)	–0.948	0.831	–1.412	–0.877	–0.399
Absolute Announcement Return	0.073	0.075	0.023	0.051	0.098

Panel B. Correlation Matrix

	ΔVP	ΔVP: Med	ΔVP: Long	ES	Size	B/M	AAR
ΔVoting Premium (%)		0.542	0.343	–0.005	0.003	0.017	–0.013
ΔVoting Premium (%): Med. Term	0.765		0.362	–0.003	–0.067	0.013	0.015
ΔVoting Premium (%): Long Term	0.634	0.544		–0.013	–0.098	0.009	0.024
Earnings Surprise	–0.030	–0.025	–0.035		–0.006	–0.055	–0.020
Size (Ln)	–0.016	–0.052	–0.075	0.012		–0.112	–0.328
Book-to-Market (Ln)	0.008	0.002	–0.003	–0.064	–0.133		–0.045
Absolute Announcement Return	0.003	0.027	0.028	–0.042	–0.264	–0.032	

Table 2. Voting Premium and Earnings Surprises

This table presents coefficient estimates of fixed-effects regressions of the change in the voting premium (*ΔVP*) on earnings surprise (*ES*), log firm size (*Size*), log book-to market ratio (*B/M*), and absolute announcement returns (*AAR*): $\Delta VP_{it} = b_1 + b_2 \times ES_{it} + b_3 \times Size_{it} + b_4 \times B/M_{it} + b_5 \times AAR_{it} + fixed\ effects$. The unit of observation is the firm–quarterly earnings announcement. We calculate earnings surprises based on seasonal random walk expected earnings. All variables are defined in Appendix A. We include firm and time (year) fixed effects where indicated. We treat Regression 3 as our baseline regression throughout the paper. In the fourth column, to calculate the voting premium over a medium-term maturity, we use only options that expire between 45 days and 180 days. In the last column, to calculate the voting premium over a long-term maturity, we use only options with expiration dates greater than 180 days to calculate the voting premium. *T*-statistics, based on robust standard errors clustered by firm, are reported in parentheses below coefficients. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable:	**(1) ΔVoting Premium (%)**	**(2) ΔVoting Premium (%)**	**(3) ΔVoting Premium (%)**	**(4) ΔVoting Premium (%): Med. Term**	**(5) ΔVoting Premium (%): Long Term**
Earnings Surprise	–0.161***	–0.155***	–0.152***	–0.121***	–0.206**
	(–3.038)	(–2.913)	(–2.854)	(–3.242)	(–2.544)
Size (Ln)			–0.019**	–0.033***	–0.071***
			(–2.460)	(–4.520)	(–3.580)
Book-to-Market (Ln)			0.01	–0.002	–0.002
			(1.291)	(–0.266)	(–0.095)
Absolute Ann. Return			0.037	0.139**	0.150
			(0.521)	(2.189)	(0.822)
Observations	100,634	100,634	100,634	78,665	46,924
R^2	0.14	0.14	0.14	0.20	0.27
Year Fixed Effect	NO	YES	YES	YES	YES
Firm Fixed Effect	YES	YES	YES	YES	YES

Table 3. Robustness of Baseline Results

This table presents coefficient estimates of fixed-effects regressions of the change in the voting premium (*ΔVP*) on earnings surprise (*ES*), log firm size (*Size*), log book-to-market ratio (*B/M*), and absolute announcement returns (*AAR*): $\Delta VP_{it} = b_1 + b_2 \times ES_{it} + b_3 \times Size_{it} + b_4 \times B/M_{it} + b_5 \times AAR_{it} + fixed\ effects$. In Panel A, the first regression reports the baseline specification (Table 2, Regression 3) after excluding dividend-paying stocks from the sample. The second regression repeats the baseline specification after excluding dual-class stocks from the sample. The third regression reports the baseline specification for the subsample of earnings announcements with the announcement returns greater than –10%. In Panel B, the first regression repeats our baseline specification by truncating earnings surprise at the 2.5th and 97.5th percentiles. The second regression repeats the baseline specification with two dummy variables, *Top* and *Bottom*. *Top (Bottom)* takes a value of one if the earnings surprise is within the top (bottom) 2.5% of the earnings surprise distribution, and zero otherwise. All other variables are defined in Appendix A. The unit of observation is the firm–quarterly earnings announcement. We include firm and time (year) fixed effects where indicated. *T*-statistics, based on robust standard errors clustered by firm, are reported in parentheses below coefficients. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A.

	(1)	**(2)**	**(3)**
Dependent Variable:	**ΔVoting Premium (%)**	**ΔVoting Premium (%)**	**ΔVoting Premium (%)**
Subsample:	**Excluding dividend firms**	**Excluding dual class firms**	**Excluding EA returns<–10%**
Earnings Surprise	–0.172**	–0.151***	–0.176***
	(–2.193)	(–2.811)	(–2.877)
Size (Ln)	–0.021	–0.020**	–0.020**
	(–1.486)	(–2.560)	(–2.405)
Book-to-Market (Ln)	0.007	0.009	0.008
	(0.513)	(1.216)	(1.124)
Absolute Ann. Return	0.021	0.045	0.531***
	(0.213)	(0.629)	(5.997)
Observations	46,613	99,449	89,388
R^2	0.15	0.14	0.15
Year Fixed Effect	YES	YES	YES
Firm Fixed Effect	YES	YES	YES

Table 3. Robustness of Baseline Results (continued)

Panel B.

	(1)	(2)
Dependent Variable:	**ΔVoting Premium (%)**	**ΔVoting Premium (%)**
Subsample/Method:	**Truncated**	**Piecewise regression**
Earnings Surprise	–0.248**	–0.280**
	(–2.052)	(–2.297)
Top x Earnings Surprise		–0.978
		(–0.919)
Bottom x Earnings Surprise		–0.643*
		(–1.758)
Top		0.125
		(0.170)
Bottom		–0.034
		(–0.539)
Size (Ln)	–0.011	–0.017**
	(–1.473)	(–2.308)
Book-to-Market (Ln)	0.015**	0.009
	(2.223)	(1.251)
Absolute Ann. Return	–0.002	0.034
	(–0.037)	(0.469)
Observations	95,532	100,634
R^2	0.14	0.14
Year Fixed Effect	YES	YES
Firm Fixed Effect	YES	YES

Table 4. Voting Premium and Earnings Surprises: Liquidity

This table presents coefficient estimates of fixed-effects regressions of the change in the voting premium (*ΔVP*) on earnings surprise (*ES*) and on various liquidity proxies. In the regressions, we also control for log firm size (*Size*), log book-to-market ratio (*B/M*), and absolute announcement returns (*AAR*): $\Delta VP_{it} = b_1 + b_2 \times ES_{it} + b_3 \times Size_{it} + b_4 \times B/M_{it} + b_5 \times AAR_{it} + Liquidity\ Proxies + fixed\ effects$. The first column presents our result in the main sample. In the following (last) three columns of the table, we estimate the same specification after excluding the special stocks from the sample. We identify these special stocks using short interest data reported in the Markit database. A stock is a special stock if its three-day average indicative fee is above 100 basis points. In the first two columns, the voting premium is calculated using all options. In the third column, to calculate the voting premium over a medium-term maturity, we exclude options with expiration dates greater than 180 and less than 45 days to calculate the voting premium. In the last column, to calculate the voting premium over a long-term maturity, we use options that have expiration dates greater than or equal to 180 days. The unit of observation is the firm–quarterly earnings announcement. Liquidity proxies include announcement window averages of the stock's *Amihud illiquidity*, *Bid-Ask Spread*, *Trading Volume*, *Short Interest*, and *Institutional Ownership*. We also include squares of the liquidity proxies. We drop observations that do not have short interest data. All other variables are defined in Appendix A. We include firm and time (year) fixed effects where indicated. *T*-statistics, based on robust standard errors clustered by firm, are reported in parentheses below coefficients. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 4. Baseline Results and Liquidity (continued)

Dependent Variable:	(1) ΔVoting Premium (%)	(2) ΔVoting Premium (%)	(3) ΔVoting Premium (%): Med. Term	(4) ΔVoting Premium (%): Long Term
Subsample:	**Whole sample**	**Excluding special stocks**	**Excluding special stocks**	**Excluding special stocks**
Earnings Surprise	–0.171***	–0.149**	–0.115***	–0.150*
	(–2.826)	(–2.412)	(–2.604)	(–1.685)
Size (Ln)	–0.028***	–0.021**	–0.027***	0.013
	(–2.769)	(–2.137)	(–3.289)	(0.518)
Book-to-Market (Ln)	0.009	0.004	–0.002	0.013
	(1.089)	(0.498)	(–0.269)	(0.681)
Absolute Return (Abs)	0.035	0.073	0.034	–0.228
	(0.388)	(1.052)	(0.499)	(–1.234)
Institutional Ownership	–0.021*	–0.017	–0.017	–0.082*
	(–1.751)	(–1.472)	(–1.320)	(–1.753)
Bid-Ask Spread	–0.618	–0.718	–1.485***	2.327
	(–0.759)	(–0.829)	(–2.663)	(1.313)
Amihud	0.001	0.001	0.003	0.036
	(0.243)	(0.179)	(0.448)	(1.232)
Volume/ME	–0.562*	–0.468	–0.428*	–1.310*
	(–1.676)	(–1.420)	(–1.774)	(–1.932)
Short Interest	0.166	0.210**	0.587***	2.818***
	(1.482)	(1.992)	(4.995)	(8.451)
Bid-Ask Spread ^ 2	7.380	4.374	13.823***	5.136
	(1.297)	(0.701)	(3.409)	(0.443)
Amihud ^ 2	0.000	0.000	0.000	0.001
	(1.026)	(1.043)	(0.178)	(0.590)
Volume/ME ^ 2	0.225**	0.180*	0.244**	0.453**
	(1.962)	(1.743)	(2.414)	(2.295)
Short Interest ^ 2	–0.064	–0.183	–0.302	–1.596***
	(–0.376)	(–1.226)	(–1.566)	(–2.965)
Observations	88,991	86,375	68,678	41,725
R^2	0.14	0.12	0.15	0.20
Year Fixed Effect	YES	YES	YES	YES
Firm Fixed Effect	YES	YES	YES	YES

Table 5. Extensions of Baseline Results

This table presents coefficient estimates of fixed-effects regressions of the change in the voting premium (*ΔVP*) in Regressions 1, 2, and 4 (and the difference in the change in voting premium (*ΔVP(EA) – ΔVP(PEA)*) in Regression 3) on earnings surprise (*ES*), log firm size (*Size*), log book-to-market ratio (*B/M*), and absolute announcement returns (*AAR*): ΔVP_{it} (or $\Delta VP(EA)_{it} - \Delta VP(PEA)_{it}$) = $b_1 + b_2 \times ES_{it} + b_3 \times Size_{it} + b_4 \times B/M_{it} + b_5 \times AAR_{it}$ + *fixed effects*. In the first regression, we repeat our baseline specification (Table 2, Regression 3) by using earnings surprises based on analyst consensus expected earnings, rather than the seasonal random walk expected earnings. The second regression repeats the analysis with the voting premium calculated from dual-class stocks using the method described in Section 4.3. In the third regression, the left-hand-side variable is the difference between the *change in voting premium* on the earnings announcement *(EA)* day and the change in voting premium on a matching pseudo-earnings-announcement *(PEA)* day during the previous quarter. In the fourth regression, we replace our earnings surprise measure with a *Relative Performance* (*RP*) metric. To calculate *RP*, we first calculate each industry's median earnings surprise for each quarter and then deduct it from the firm's earnings surprise. All other variables are defined in Appendix A. The unit of observation is the firm–quarterly earnings announcement. We include firm and time (year) fixed effects where indicated. *T*-statistics, based on robust standard errors clustered by firm, are reported in parentheses below coefficients. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable:	**(1) ΔVoting Premium (%)**	**(2) ΔVoting Premium (%)**	**(3) ΔVP (EA) – ΔVP (PEA) (%)**	**(4) ΔVoting Premium (%)**
Subsample/Method:	**Analyst forecast**	**Dual-class voting premium**	**Pseudo earnings announcements**	**Whole sample**
Earnings Surprise	–0.110**	–0.398	–0.149**	
	(–2.572)	(–0.224)	(–2.270)	
Relative Performance				–0.172***
				(–2.851)
Size (Ln)	–0.018**	–0.078	–0.039***	–0.019**
	(–2.108)	(–0.254)	(–4.345)	(–2.411)
Book-to-Market (Ln)	0.014*	0.641	0.012	0.011
	(1.729)	(1.467)	(1.427)	(1.389)
Absolute Ann. Return	0.063	–2.122	0.242***	0.038
	(0.962)	(–1.551)	(2.918)	(0.539)
Observations	64,337	4,626	25,719	100,634
R^2	0.12	0.35	0.21	0.14
Year Fixed Effect	YES	YES	YES	YES
Firm Fixed Effect	YES	YES	YES	YES

Table 6. Voting Premium and Earnings Surprises: Shareholder Meetings

This table presents coefficient estimates of fixed-effects regressions of the change in the voting premium (*ΔVP*) on earnings surprise (*ES*), an indicator variable for close distance to shareholder meeting (*I_CD*), the interaction of earnings surprise and close shareholder meeting dummy (*ES x I_CD*), and the control variables, including log firm size (*Size*), log book to market ratio (*B/M*), and absolute announcement return (*AAR*): $\Delta VP_{it} = b_1 + b_2 \times ES_{it} + b_3 \times I\_CD_{it} + b_4 \times ES_{it} \times I\_CD_{it} + b_5 \times Control\ Variables_{it} + fixed\ effects$. The unit of observation is the firm–quarterly earnings announcement. *I (Close Distance)* takes a value of one if the next shareholder meeting is within *X* days of the earnings announcement, and zero otherwise. The values of *X* are given in the heading of each column. All other variables are defined in Appendix A. The sample includes all observations for firms with an upcoming shareholder meeting in the next 100 days. In the last column, to calculate the voting premium over a long-term maturity, we use only options with expiration dates more than 180 days to calculate the voting premium. We include firm and time (year) fixed effects where indicated. *T*-statistics, based on robust standard errors clustered by firm, are reported in parentheses below coefficients. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent Variable:	**ΔVoting Premium (%)**	**ΔVoting Premium (%)**	**ΔVoting Premium (%)**	**ΔVoting Premium (%)**	**ΔVoting Premium (%)**	**ΔVoting Premium (%)**	**ΔVoting Premium (%): Long Term**
Close Distance:	**30 days to meeting**	**25 days to meeting**	**20 days to meeting**	**15 days to meeting**	**10 days to meeting**	**5 days to meeting**	**5 days to meeting**
ES x I (Close Distance)	–0.225	–0.228*	–0.274**	–0.282**	–0.275**	–0.307***	–0.376***
	(–1.608)	(–1.648)	(–2.306)	(–2.428)	(–2.382)	(–2.625)	(–3.242)
Earnings Surprise	–0.022**	–0.022**	–0.022**	–0.022**	–0.022**	–0.022**	–0.085***
	(–2.169)	(–2.162)	(–2.162)	(–2.155)	(–2.161)	(–2.177)	(–3.531)
I (Close Distance)	0.008	0.009	0.014*	0.015*	0.015*	0.020*	0.019
	(1.215)	(1.321)	(1.837)	(1.912)	(1.808)	(1.656)	(0.820)
Size (Ln)	0.009	0.009	0.009	0.010	0.010	0.010	0.005
	(0.800)	(0.806)	(0.835)	(0.847)	(0.861)	(0.867)	(0.217)
Book-to-Market (Ln)	0.002	0.003	0.006	0.005	0.005	0.009	0.036
	(0.030)	(0.033)	(0.079)	(0.065)	(0.061)	(0.112)	(0.189)
Absolute Ann. Return	0.173	0.172	0.169	0.168	0.166	0.167	0.198*
	(1.393)	(1.397)	(1.463)	(1.479)	(1.464)	(1.504)	(1.762)
Observations	20,654	20,654	20,654	20,654	20,654	20,654	10,333
R^2	0.19	0.19	0.19	0.19	0.19	0.19	0.28
Year Fixed Effect	YES	YES	YES	YES	YES	YES	YES
Firm Fixed Effect	YES	YES	YES	YES	YES	YES	YES

Table 7. Voting Premium and Earnings Surprises: Interaction Analysis

This table presents coefficient estimates of fixed-effects regressions of the change in the voting premium (*ΔVP*) on earnings surprise (*ES*) and on the interaction of the earnings surprise with the following variables: (i) an indicator variable set equal to one if forecast dispersion is greater than the median dispersion in the fiscal quarter, and zero otherwise; (ii) an indicator variable that takes a value of one if the firm's earnings surprise is less than the median earnings surprise of its industry; (iii) an indicator variable set equal to one if the number of activism events in the industry (two-digit SIC) in a given year is greater than the 75th percentile of the sample, and zero otherwise; (iv) an indicator variable set equal to one if insider ownership is greater than 75% percentile of the sample, and zero otherwise; and (v) an indicator variable set equal to one if the research and development expense to annual revenue (*R&D*) is greater than the 75th percentile of the sample, and zero otherwise. In the regressions, we also control for log firm size (*Size*), log book-to-market ratio (*B/M*), and absolute announcement return (*AAR*). We estimate the following regression: $\Delta VP_{it} = b_1 + b_2 \times ES_{it} + b_3 \times ES_{it} \times Interacting\ Variable_{it} + b_4 \times Control\ Variables_{it} + fixed\ effects$. The unit of observation is the firm–quarterly earnings announcement. All other variables are defined in Appendix A. We include firm and time (year) fixed effects where indicated. *T*-statistics, based on robust standard errors clustered by firm, are reported in parentheses below coefficients. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
Dependent Variable:	**ΔVoting Premium (%)**	**ΔVoting Premium (%)**	**ΔVoting Premium (%)**	**ΔVoting Premium (%)**	**ΔVoting Premium (%)**
Interacting Variable:	**Forecast dispersion**	**Relative performance**	**Activism**	**Insider ownership**	**R&D expense**
Earnings Surprise x Main Effect	–0.246*	–0.260**	–0.396*	0.182***	0.217**
	(–1.716)	(–2.307)	(–1.944)	(1.849)	(2.147)
Earnings Surprise	–0.088*	–0.011	–0.084**	–0.196***	–0.173***
	(–1.658)	(–0.155)	(–2.229)	(–3.005)	(–2.961)
Main Effect	0.002	0.000	0.004	0.022	0.025
	(0.450)	(–0.065)	(0.467)	(1.474)	(1.077)
Observations	64,337	100,634	83,992	68,833	100,634
R^2	0.12	0.14	0.14	0.15	0.14
Control Variables	YES	YES	YES	YES	YES
Year Fixed Effect	YES	YES	YES	YES	YES
Firm Fixed Effect	YES	YES	YES	YES	YES

Appendix Table 1. Voting Premium and Earnings Surprises: Alternative Benchmark Windows and Methods

This table presents coefficient estimates of fixed-effects regressions of the change in the voting premium (*ΔVP*) on earnings surprise (*ES*), log firm size (*Size*), log book-to-market ratio (*B/M*), and absolute announcement returns (*AAR*): $\Delta VP_{it} = b_1 + b_2 \times ES_{it} + b_3 \times Size_{it} + b_4 \times B/M_{it} + b_5 \times AAR_{it} + fixed\ effects$. The unit of observation is the firm–quarterly earnings announcement. We use the samples used in Table 2 and Regressions 3, 4, and 5 to facilitate comparisons across analysis using the alternative benchmark windows in Regressions 1, 2, and 3 of this table, respectively. In all first three columns, we define *ΔVoting Premium* (*ΔVP*) as the average voting premium around the quarterly earnings announcement *(t–2, t+2)* minus the average voting premium before the earnings announcement *(t–15, t–5)*, where *t* is the earnings announcement date and the windows are defined in trading days. In the fourth column, we impute the average voting premium in non-earnings event windows in year *t–1* as the voting premium for days with missing voting premiums in year *t*. In the fifth column, we use the level of (rather than the change in) the voting premium. All other variables are defined in Appendix A. We include firm and time (year) fixed effects where indicated. *T*-statistics, based on robust standard errors clustered by firm, are reported in parentheses below coefficients. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable:	**(1) ΔVoting Premium (%): Alt. Window**	**(2) ΔVoting Premium (%): Alt. Window, Med. Term**	**(3) ΔVoting Premium (%): Alt. Window, Long Term**	**(4) ΔVoting Premium (%)**	**(5) Voting Premium (%)**
Earnings Surprise	–0.150***	–0.125***	–0.219***	–0.124**	–0.277***
	(–2.877)	(–3.469)	(–2.707)	(–2.405)	(–4.102)
Size (Ln)	–0.022***	–0.035***	–0.075***	–0.005	–0.032***
	(–2.855)	(–4.917)	(–3.785)	(–0.619)	(–3.389)
Book-to-Market (Ln)	0.003	–0.002	–0.025	0.002	–0.003
	(0.440)	(–0.279)	(–1.258)	(0.250)	(–0.231)
Absolute Ann. Return	0.052	0.126**	0.070	0.031	0.207***
	(0.785)	(2.013)	(0.400)	(0.414)	(2.904)
Observations	100,634	78,665	46,924	100,634	100,634
R^2	0.14	0.21	0.27	0.14	0.20
Year Fixed Effect	YES	YES	YES	YES	YES
Firm Fixed Effect	YES	YES	YES	YES	YES

Appendix Table 2. Voting Premium and Earnings Surprises: Future Stock Returns

This table presents coefficient estimates of cross sectional regressions of future stock returns *(FR)* on earnings surprise (*ES*) quintile, change in voting premium residual quintile *(RΔVP)*, log firm size (*Size*), log book-to-market ratio (*B/M*), and absolute announcement return (*AAR*): $FR_{it} = b_1 + b_2 \times R\Delta VP_{it} + b_3 \times ES_{it} + b_d \times Size_{it} + b_5 \times B/M_{it} + b_6 \times AAR_{it} + fixed\ effects$. Future returns are cumulative raw returns following the earnings announcement. In the first regression, we use returns from days 2 to 20. In the second regression, we use returns from days 2 to 40. In the third regression, we use returns from days 2 to 60. We calculate earnings surprise quartile within each calendar year. We calculate the change in the voting premium residual quartile using the residuals of our baseline specification (Table 2, Regression 3). The unit of observation is the firm–quarterly earnings announcement. All other variables are defined in Appendix A. We include firm and time (year) fixed effects where indicated. *T*-statistics, based on robust standard errors clustered by day, are reported in parentheses below coefficients. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent Variable:	**(1)** **Future Return Days (2,20)**	**(2)** **Future Return Days (2,40)**	**(3)** **Future Return Days (2,60)**
Residual ΔVP Quartile	0.0002	0.0001	–0.0008
	(0.392)	(0.232)	(–1.068)
Earnings Surprise Quartile	0.0007*	0.0019***	0.0027***
	(1.786)	(3.089)	(3.486)
Size (Ln)	–0.0007	–0.0011**	–0.0012
	(–1.564)	(–2.001)	(–1.624)
Book-to-Market (Ln)	0.0008	0.0068***	0.0113***
	(0.781)	(4.607)	(6.103)
Absolute Announcement Return	0.0491***	0.0393**	0.0839***
	(3.047)	(2.045)	(3.692)
Constant	0.0002	0.0001	–0.0008
	(0.392)	(0.232)	(–1.068)
Observations	101,053	101,009	100,970
$\boldsymbol{R^2}$	0.001	0.001	0.001

Appendix Table 3. Voting Premium, Future Returns, and Liquidity

This table reports estimates obtained from fixed-effects regressions of *change in voting premium* (*ΔVP*) on earnings surprise (*ES*), log firm size (*Size*), log book-to-market ratio (*B/M*), and absolute announcement returns (*AAR*): $\Delta VP_{it} = b_1 + b_2 \, x \, ES_{it} + b_3 \, x \, Size_{it} + b_4 \, x \, B/M_{it} + b_5 \, x \, AAR_{it} + fixed \; effects$. The unit of observation is the firm–quarterly earnings announcement. We calculate earnings surprises based on seasonal random walk expected earnings. We split the sample into four subsamples based on the trading activity of the stock and the option. Specifically, for each stock-year, we first calculate annual stock turnover by dividing trading volume by the market value of equity. We then split stocks into high and low stock turnover groups based on the cross-sectional median turnover in each year. We repeat the same procedure for total option trading volume (sum of put and call options) and split the stocks into high and low option turnover groups based on the cross-sectional median turnover in each year. All other variables are defined in Appendix A. We include firm and time (year) fixed effects where indicated. *T*-statistics, based on robust standard errors clustered by firm, are reported in parentheses below coefficients. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
Dependent Variable:	**ΔVoting Premium (%)**	**ΔVoting Premium (%)**	**ΔVoting Premium (%)**	**ΔVoting Premium (%)**
Stock Liquidity:	**High**	**High**	**Low**	**Low**
Option Liquidity:	**High**	**Low**	**High**	**Low**
Earnings Surprise	–0.201**	–0.158*	–0.163**	–0.033
	(–2.193)	(–1.894)	(–2.106)	(–0.306)
Size (Ln)	–0.034***	–0.010	0.010	–0.020
	(–3.109)	(–0.589)	(0.498)	(–0.980)
Book-to-Market (Ln)	0.021	0.022	0.009	–0.016
	(1.464)	(1.365)	(0.480)	(–0.903)
Absolute Ann. Return	0.060	0.011	0.196	–0.101
	(0.643)	(0.065)	(1.189)	(–0.597)
Observations	24,981	24,582	24,336	24,695
R^2	0.26	0.20	0.28	0.25
Year Fixed Effect	YES	YES	YES	YES
Firm Fixed Effect	YES	YES	YES	YES