

# Earnings and the Value of Voting Rights<sup>\*</sup>

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## Abstract

We examine the impact of earnings announcements on the value of shareholder voting rights (i.e., voting premium) estimated using a new technique that exploits option prices. We find voting premium is negatively related to earnings surprises. This relation is primarily driven by unfavorable earnings surprises, strengthened in the presence of impending shareholder meetings, and attenuated when managerial incentives are aligned with shareholders. Variation in voting premium around earnings announcements predicts future exercises of control rights in firms, such as CEO turnovers, takeovers, and corporate restructurings. Our results highlight a strong link between control rights and information disseminated in earnings announcements.

**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 (i.e., voting premium) estimated using a new technique that exploits option prices. We find voting premium is negatively related to earnings surprises. This relation is primarily driven by unfavorable earnings surprises, strengthened in the presence of impending shareholder meetings, and attenuated when managerial incentives are aligned with shareholders. Variation in voting premium around earnings announcements predicts future exercises of control rights in firms, such as CEO turnovers, takeovers, and corporate restructurings. Our results highlight a strong link between control rights and information disseminated in earnings announcements.

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Earnings announcements and their impact in capital markets attract considerable attention in the literature and among practitioners. Nevertheless, compared to other information events, earnings announcements seem to provide a surprisingly modest amount of incremental information to 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 the management of the firms' assets, and increase the chances of a control contest.

In this study, we bring a new perspective and highlight the relation between the accounting information released in the earnings announcements and the shareholder voting rights, 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 the control rights by providing a benchmark for shareholders to express their concerns with corporate performance and to pressure management for corporate reform (control role).<sup>1</sup> 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, 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 measure of the value of shareholder voting rights. We test whether this value of voting

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<sup>1</sup> The lower information costs amidst 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 2011, Christensen and Nikolaev 2012, and Christensen, Nikolaev, and Wittenberg-Moerman 2016).

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 the possibility of capital gains from improving the management of the company (Manne 1964, Easterbrook and Fischel 1983, Cox and Roden 2002, Karakaş and Mohseni 2016). Therefore, given that negative earnings announcements are associated with and indicative of the inefficiencies in the management of the company, we expect the earnings announcements to be negatively related with the value of voting rights.

We estimate the value of voting rights using option prices (hereafter, *voting premium*), following the method introduced in Kalay, Karakaş, and Pant (2014). Specifically, we define *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.<sup>2</sup> 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.<sup>3</sup> *Voting premium* is not driven by non-control

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<sup>2</sup> *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.

<sup>3</sup> The method of estimating the value of control using (i) trades of block shareholders: takes price difference between the share price in a block trade and the general stock price right after the block sale, (ii) dual-class stocks: takes price difference between superior and inferior voting classes of shares. 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.

related liquidity concerns, is on average positive, and increases around events in which control is likely to be contested – such as shareholder meetings (particularly the meetings with close votes), hedge fund activisms, and mergers and acquisitions (Kalay, Karakaş, and Pant 2014)

Analyzing 4,481 US public firms over the period 1996 to 2013, and earnings surprises based on seasonal random walk expected earnings, we show that the value of voting rights is negatively related to earnings surprises, i.e., a firm's *voting premium* increases with the unfavorable earnings surprises. This baseline result of negative relation between *voting premium* and earnings surprises is robust to controlling for firm size, book-to-market, absolute abnormal returns around the earnings announcements, firm and year fixed effects. The 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.<sup>4</sup> Our findings are in line with the view that unfavorable earnings reflect, and possibly trigger, the 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*.

Potential litigations and dividend changes following earnings announcements may create biases in our estimations. Under the scenario of litigation risk, unexpected bad earnings

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<sup>4</sup> 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 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.

may lead to firms being sued due to substantial drops in their stock prices (Skinner 1994). In such a case, the shareholders who own the stock at the time of the announcement retain the rights to claim potential impending settlements, which in turn can introduce a positive bias in the *voting premium*. Under the scenario of dividend changes, firms experiencing unfavorable earnings may reduce their dividends (DeAngelo and DeAngelo 1990), which in turn can introduce a negative bias in the *voting premium*. To investigate whether these plausible alternative mechanisms drive the relationship we document, we perform our analysis again after excluding (i) stocks with earnings announcements accompanied by large price declines, which proxies for high litigation likelihood, and (ii) stocks paying dividends, respectively. In both cases, we find that our baseline result continues to hold for the remaining stocks, suggesting neither potential litigations nor dividend changes following earnings announcements drive the negative relation between adverse earnings news and *voting premium*.

Competitive pressures among firms and the incentives of managers play an important role in timeliness and nature of information disclosed prior to earnings announcements, particularly through voluntary disclosures. Managers may disclose a considerable amount of good or bad news in earnings forecasts to manage the expectations of the market before the upcoming release of the earnings announcement (see Skinner 1994, 1997, Kasznik and Lev 1995, Soffer, Thiagarajan, and Walther 2000, Matsumoto 2002, Miller 2002, Richardson, Teoh, and Wysocki 2004, and Field, Lowry, and Shu 2005). These studies suggest that for the subset of firms that use voluntary disclosure mechanisms to disseminate news in advance, there may be contaminations in the information incorporated into the *voting premium*. We find that our baseline result continues to hold after excluding firms that provide guidance for

future earnings, and hence is not driven by voluntary disclosure practices.

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. While we cannot perfectly assure that the earnings news on the actual announcement date is completely a surprise to the market, we can check whether market prices the voting rights similarly on a *non-earnings* day that exhibit an equivalent amount of equity return (call “pseudo-earnings announcement day”). We find evidence that information disseminated on earnings announcement days are perceived to be more important than days with similar returns during the quarter, in terms of market’s valuation of voting rights. This is plausible since earnings reports are often accompanied by the actual financial statements that contain detailed information to supplement earnings. In line with our findings, DeAngelo (1988) shows that in proxy contests with the agenda of a hostile management change, dissident shareholders are more likely to cite poor earnings reports, rather than poor stocks price performances, when they express and act on their discomfort with incumbent managers.

*Voting premium* increases around shareholder meetings, particularly when the control is contested (Kalay, Karakaş, and Pant 2014). This insight combined with DeAngelo’s (1988) above-mentioned findings suggests that *voting premium* should be more responsive to earnings information especially before shareholder meetings. Using information from over 29,000 shareholder meetings between 1996 and 2013, we find the effect of earnings on *voting premium* to be stronger when the next shareholder meeting, at which control rights can be exercised, is close. DeAngelo (1988) also shows that incumbent CEOs, on average, report

more favorable earnings during the election campaigns. Similarly, Collins and DeAngelo (1990) provide evidence indicating earnings management during proxy contests. If the market anticipates CEOs' tendency to manage earnings upwards prior to annual meetings, this may contaminate the information incorporated into the *voting premium*.<sup>5</sup> To address this concern, we restrict our sample to earnings that contain a lower accrual component, which allows us to focus on firms that are less likely to be contaminated with earnings management expectations (Sloan 1996). In this restricted sample, we continue to find that earnings news is negatively related in *voting premium*, suggesting our results cannot be attributed to managerial tendency to manage earnings upward prior to critical meetings.

Shareholders are unlikely to know exactly which CEO actions are value maximizing, and hence compensation contracts are often directly based on shareholder value. By granting an ownership stake in the firm, equity-linked compensation creates incentives for the CEO to take actions that benefit shareholders. Effectiveness of these compensation contracts depends on the alternative governance mechanisms present within the environment of the firm. We find that the negative relation between the value of voting rights and earnings is stronger for firms with CEOs that are subject to lower pay-for-performance sensitivity.<sup>6</sup> This finding suggests that the market views the internal governance mechanism of compensation contracts (reflected in pay-for-performance sensitivity) and the external governance mechanism of market for corporate control (reflected in *voting premium*) as substitutes in aligning incentives.

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<sup>5</sup> For instance, the market may respond to the same amount of negative earnings more harshly if the earnings report is issued right before the annual meetings.

<sup>6</sup> We capture the pay-for-performance sensitivity by using the "scaled wealth-performance sensitivity" measure of Edmans, Gabaix, and Landier (2009).



Asset composition of firms helps us to further distinguish whether *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 tangible assets and generalizable assets, because these assets fetch a higher value when they are sold at a fire sale (Shleifer and Vishny 2011). Indeed, 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. Relatedly, Hayn (1995) shows that when future cash flows become disappointing, stock prices do not fall as much they should, suggesting shareholders would prefer to liquidate the firm rather than bear predictable losses.<sup>7</sup> We use book-to-market ratio to measure firm's asset tangibility (Daniel and Titman 2006). We use R&D-to-sales ratio to measure firm's asset generalizability with the assumption that R&D creates firm specific know-how, which would cause the assets of firms to have lower deployability in the secondary market for others. We find that the *voting premium* responds much more strongly to negative earnings news when the firm has more tangible assets (i.e., higher book-to-market ratio), and when the firm has more generalizable assets (i.e., lower R&D-to-sales ratio).<sup>8</sup>

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<sup>7</sup> Changes in the *voting premium* can potentially explain some of the reported liquidation, or abandonment, option values in the stock prices following earnings announcements. In fact, consistent with Hayn (1995), we find the response of *voting premium* to earnings surprises to be driven more by negative earnings surprises, as mentioned earlier. It is, however, important to note that the liquidation option value and the *voting premium* are separate concepts. 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. The (potential) changes in the liquidation 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.

<sup>8</sup> Skinner and Sloan (2002) argue that low book-to-market stocks (growth stocks) exhibit an asymmetrically large negative price reactions to negative earnings surprises, compared to high book-to-market stocks (value stocks), due to overoptimistic expectation errors. This "earnings torpedo" effect would bias against us finding a stronger negative relation between the earnings surprises and *voting premium* for the high book-to-market stocks.

Given that the earnings announcements are instrumental in the pricing of voting rights, we should also observe their impact on the real effects of the subsequent control decisions (i.e., on the subsequent realized exercises of control). Consistent with this conjecture, we find that the predicted values of *voting premium* from earnings surprises explain the CEO turnovers, M&As, and restructurings in the firms that occur within the following two years. In other words, we find higher instances of corporate control decisions to follow the increased *voting premiums* that are predicted from negative earnings announcements.

This 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 that accounting disclosure has a direct (negative) effect on the value of shareholder voting rights in a share, which is the opposite of its (positive) effect on the value of cash flows.

Our paper is also related to a host of studies that 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 options market 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 behavior of option pricing and

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Consistent with our results, Feldhütter, Hotchkiss, and Karakaş (2016) find that creditor voting premium in bonds matter more for firms with more tangible assets.

associated private information around earnings announcements from the perspective of the market for corporate control.

In the following section, we discuss the conceptual relation between the value of voting rights and earnings, and outline the principal hypothesis we test in the paper. In Section 2, we provide a detailed explanation of the methodology to measure the daily *voting premium*. Section 3 describes the data and sample construction. Section 4 provides details on the empirical analysis, and Section 5 concludes.

## **1. Conceptual Relation between the Value of Voting Rights and Earnings**

Control rights matter to investors of a particular 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 the outside shareholders feel the need to use their voting power to exert disciplinary pressure that improves firm performance (Manne 1964, Easterbrook and Fischel 1983, Cox and Roden 2002, Karakaş and Mohseni 2016).

Lower-than-expected earnings would lower investors' assessment of the incumbent 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 the inefficiencies in the management of the company, we expect the earnings announcements to be negatively related with 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 negative earnings are more likely to trigger control decisions/changes.

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 2016). However, we assert that such interpretation of the value of voting rights is not very relevant for our setting and analysis. First, consumption of private benefits is likely not immediately affected by the earnings surprises. Second, levels of private benefits of control are, at least partially, controlled in our tests through control variables and fixed effects. Third, high private benefits lead to earnings management (Gopalan and Jayaraman 2012) that is likely to bias against us finding our results due to less variation in the volatility of earnings surprises.<sup>9</sup>

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 impact of earnings on *voting premium* varies over time and

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<sup>9</sup> In the case of a sharp decrease in earnings that breaks the artificially low volatility due to earnings managements, we would expect to observe a negative relation between the *voting premium* and the earnings. In untabulated results, we find evidence consistent with this expectation. However, in Regression 3 of Table 4, we show that our main results are not driven by such extreme effects.

across firms.<sup>10</sup>

## 2. Estimation of the *Voting Premium*

To calculate the value of voting rights, *voting premium*, on a daily basis we follow the method described in 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,  $C_{i,t}^{no-v}$  from that of the underlying stock,  $S_{i,t}$  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  $C_{i,t}^{no-v}$  is calculated using put-call parity for an option pair with same maturity  $T$  and strike price  $K$  and is adjusted for the early exercise premiums of American options,  $\sum_{t=0}^{T-1} \frac{D_{i,t}}{(1+r)^t}$  and for dividends (*DIVs*) paid before the options mature, i.e.

$$C_{i,t}^{no-v} = C_{i,t}^{call} - C_{i,t}^{put} - \sum_{t=0}^{T-1} \frac{D_{i,t}}{(1+r)^t} + \frac{K}{(1+r)^T} \quad (1)$$

$$\frac{C_{i,t}^{no-v}}{S_{i,t}} = \left( \frac{C_{i,t}^{call}}{S_{i,t}} - \frac{C_{i,t}^{put}}{S_{i,t}} \right) / \frac{C_{i,t}^{call}}{S_{i,t}} \quad (2)$$

where  $C_{i,t}^{call}$  and  $C_{i,t}^{put}$  are the American call and put option prices, respectively and  $\frac{C_{i,t}^{call}}{S_{i,t}}$  is the present value of investing in a risk-free bond with face value  $K$  that matures at time  $T$ .

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<sup>10</sup> 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.

Kalay, Karakaş, and Pant (2014) show that neither stock or option liquidity nor non-control-related frictions drive the changes in *voting premium*. In addition, they show that *voting premium* is positive on average and increases around the 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 at any point in time. 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, (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.<sup>11</sup> 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 where both classes of shares are publicly.<sup>12</sup> Moreover, even if both classes of shares are traded, one might be less liquid than the other. More importantly, these samples are potentially subject to selection biases (DeAngelo and DeAngelo 1985, and Smart and Zutter 2003). Indeed, Francis, Schipper, and Vincent (2005) find that earnings are generally less informative for dual-class firms, compared to single-class firms.

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<sup>11</sup> See, e.g., Barclay and Holderness (1989) and Dyck and Zingales (2004).

<sup>12</sup> See, e.g., Lease, McConnell, and Mikkelsen (1983), Levy (1983), Zingales (1994), Zingales (1995), Rydqvist (1996), Nenova (2003), Hauser and Lauterbach (2004), and Karakaş (2010).

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. Voting premium we estimate is conceptually closer to the method using dual-class shares. 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 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 premium estimated from both methods are strongly positively correlated, as expected.

### **3. Sample Description**

We use the OptionMetrics database for the calculation of daily *voting premium*. OptionMetrics is the standard dataset used for studies on options and provides data on US 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, etc.) for all American call and put options on stocks traded on US 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 that are used to construct

the synthetic stock. An option pair consists of a matched call and put options written on the same underlying stock and with identical strike price and time to maturity. We discard option pairs where 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.<sup>13</sup>

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 market response to earnings announcements in terms of stock return and volatility. Using Compustat quarterly database, we identify the earnings announcement dates, earnings amount, as well as stock characteristics such as firm asset size, book to market ratio, research and development (R&D) intensity, and accruals. We use IBES Guidance database to identify firms that provide earnings guidance to marketplace, and IBES to obtain analyst forecasts of earnings. We use Execucomp database to calculate wealth performance sensitivity of CEOs, using Edmans, Gabaix, and Landier (2009) method. We obtain annual meeting dates from ISS (formerly RiskMetrics) database. Finally, we use Capital IQ Key developments database to identify CEO turnovers, M&As, and restructuring-related events.

Throughout the paper, we use earnings surprises based on seasonal random walk earnings. With this setup, our sample baseline sample includes all the firms that have an

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<sup>13</sup> 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.



earnings announcement available four quarters ago, and the four-quarter lagged earnings values provide the benchmark for earnings expectation. 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 find our results to be qualitatively the same, though our sample size decreases considerably with the analyst consensus (see Section 4.2).

( *~Insert Table 1 about here~* )

Our main sample covers 4,481 US public firms over 1996-2013. 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 end of calendar year prior to fiscal year. The pooled average (median) market value of equity in our sample is \$2.52 billion (\$2.15 billion). *Book-to-Market* is the book to market ratio where the book value of equity is calculated as sum of stockholders' equity, deferred tax, investment tax credit minus preferred stock. The book-to-market ratio of the sample has a mean (median) of 0.357 (0.373). We measure market response to quarterly earnings announcement as the absolute value of cumulative return (-2,+2) days around the quarterly earnings announcement date. Mean (median) market response is 7.46% (5.22%).<sup>14</sup> The *voting premium* of the sample has a mean (median) of 0.092% (0.052%). Given the average maturity of options in our sample is 48

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<sup>14</sup> Throughout the tests, announcement day refers to (-2,+2) window around the earnings announcement day.

days, the annualized mean (median) *voting premium* is 0.69% (0.39%).<sup>15</sup>

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 *voting premium*. This provides preliminary support for our main thesis that voting premium increases if the firm announces lower-than-expected earnings.

#### 4. Analysis

We present our baseline regression analyses in Table 2. The dependent variable for all the three regressions is *voting premium*. Our main variable of interest is the earnings surprise, which is calculated as the difference between reported earnings per share and the expected earnings (earnings per share reported four quarter ago), scaled by price at the beginning of the year. Because larger firms may differ from smaller firms with respect 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 return 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 voting premium, and year fixed effects to capture variation in voting premium specific to every year.

( ~Insert Table 2 about here~ )

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<sup>15</sup> *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).

We find a negative relation between the *voting premium* and the earnings surprise. As shown in Table 2, the coefficient of earnings surprise is statistically significant in all the Regressions 1, 2, and 3. One standard deviation decrease in earnings surprise corresponds to about 0.008 to 0.011 percentage point increase in *voting premium* (t-statistics vary from -2.87 to -3.76), depending upon the specification. Compared to the sample mean *voting premium* (0.092%), and taking the large size of firms in our sample into account, this amount is economically sizeable.

#### 4.1. Robustness of Baseline Results

In Table 3, we find that our baseline results are robust to truncating the extreme observations of earnings surprises at the 1<sup>st</sup> and 99<sup>th</sup> percentile (Table 3, Regression 1). When we analyze the positive and negative earnings surprises separately, we find that our results are driven more by the negative earnings surprises (Table 3, Regression 2).<sup>16</sup>

(~Insert Table 3 about here~)

Francis, Schipper, and Vincent (2005) find that earnings are generally less informative for dual-class firms, compared to single-class firms.<sup>17</sup> In order 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 1.33% of our sample observations) from our sample (Table 3, Regression 3). We find that our results remain similar to baseline specification.

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<sup>16</sup> Interestingly, we find that tail events in the earnings surprise distribution, irrespective of their sign, increase the *voting premium* (untabulated).

<sup>17</sup> Firms with dual-class shares constitute about 6% of the number of public firms in the US. Dual-class firms are subject to sample selection biases, and superior voting shares tend to suffer from low liquidity (Gompers, Ishii, and Metrick 2010).

In the last specification Table 3, we exclude firms that pay dividends regularly (Regression 4). 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 our results. Regardless, in the last column of Table 3, we restrict our sample to stocks that do not pay any dividends and repeat our tests, and find that our results are not affected if we remove dividend-paying-stocks from the sample.

#### **4.2. Extensions of Baseline Results**

We find similar results to our baseline results when we employ an alternative earnings surprise measure constructed using consensus analyst forecast as the expected earnings, though the sample size decreases considerably with analyst consensus (Table 4, Regression 1). The consensus forecast is defined as the median of analyst forecasts issued within 90 days before an earnings announcement. In instances an analyst issues multiple forecasts, we use the latest forecast. Compared to our main sample, companies with analysts following are, on average, larger in size, and have lower *voting premium* and also lower earnings announcement day return volatility.

( ~Insert Table 4 about here~ )

Prior literature has shown that competitive pressures among firms and incentives of the managers play a consequential role in timeliness and nature of information disclosed prior to earnings announcements, particularly through voluntary disclosures. For instance,

qualitative disclosures about the firms' successful operations, press releases about awarding of important contracts etc. tend to increase when firm performance improves, suggesting that voluntary disclosures are used to convey good news about the firm (Miller 2002). In contrast, managers tend to disclose considerable amount of bad news in earnings forecasts, to manage the anticipated market disappointment arising from the upcoming release of the bad earnings announcement (Skinner 1994, 1997, Kasznik and Lev 1995, Soffer, Thiagarajan, and Walther 2000, Matsumoto 2002, Richardson, Teoh, and Wysocki 2004, and Field, Lowry, and Shu 2005). Hence, for firms using voluntary disclosure mechanisms to disseminate news in advance, there may be contaminations in the information incorporated into the *voting premium*. Relatedly, Rogers and Van Buskirk (2009) find evidence for managers decreasing the provision of voluntary disclosures for which they may later be held accountable. More recently, Donelson et al. (2012) find that, holding total earnings news constant, earlier revelation of bad earnings news lowers the likelihood of litigation. They find that a large portion of bad news is revealed via management disclosure.

To address the potential concerns regarding the voluntary disclosure and its impact on earnings announcement, we test whether our baseline results hold after excluding stocks that provide *any* guidance for future earnings (Regression 2 of Table 4). In order to identify firms that provide *any* kind of earnings guidance to marketplace, we use the IBES Guidance database that provides information on the timing and the nature of earnings guidance (e.g., "Earnings Shortfall," "Beat Earnings," "Meet Earnings"). We find that our results continue to hold for stocks that do not provide earnings guidance.

To further examine the potential impact of litigation risk on *voting premium* through earnings announcements, in the spirit of Francis, Philbrick, and Schipper (1994), we identify

earnings announcements followed with the large negative stock prices responses (less than -10% five-day earnings announcement returns) in Regression 3 of Table 4. By doing so, we essentially determine the earnings announcements that are more likely to be used as a reason to sue the firm in a class action.<sup>18</sup> Unexpected bad earnings often lead to large drops in stock prices (Bernard, Thomas, and Abarbanell 1993). If the firm is more likely to be sued due to these sizeable drops, then shareholders who own the stock at the time of the announcement retain the rights to claim 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 *voting premium* and earnings announcements, we repeat our analysis after exclude 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. Our findings in Regression 3 of Table 4, combined with findings in

In the last specification of Table 4, we test whether variation of *voting premium* on an actual earnings announcement day is different from that of a random date with 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 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*, from the set of events that created a similar return move in the

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<sup>18</sup> Stock returns are a strong predictor of litigation (Palmrose and Scholz 2004, and Donelson et al. 2012). Our results in Regression 3 of Table 4 are not sensitive to the particular choice of the -10% cutoff for the earnings announcement returns.

same quarter. Using a diff-in-diff design, if we find the *voting premium* to react stronger on actual announcement days compared to 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 performance and/or because other information disseminated around the earnings announcement, such as actual financial statements that contain detailed information to supplement earnings, contain information relevant for control purposes.

To implement this experiment, we identify pseudo-earnings announcement days by comparing the stock return on earnings announcement to stock returns of other days prior to actual earnings day. To increase match quality, we only consider days that are within 5% of actual earnings announcement return and denote the day that has the closest return to actual earnings announcement return as the “pseudo-earnings announcement day.” Option market can be more active right before the earnings announcements (Amin and Lee 1997). In cases where the *voting premium* is missing for the pseudo-earnings announcement day, we fill it with mean *voting premium* of the corresponding firm.<sup>19</sup> The evidence in Regression 4 of Table 4 suggests that information disseminated on earnings announcement days are generally perceived to be more important than pseudo-earnings announcement day to explain market’s valuation of control rights.<sup>20</sup> This is consistent with the conclusion of Collins and DeAngelo (1990, p.237) analyzing 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.”

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<sup>19</sup> Our results are similar if we use the median *voting premium* instead of mean *voting premium*.

<sup>20</sup> We find that, akin to the earnings announcement days, *voting premium* reacts negatively to the stock price changes in pseudo-earnings announcement days as well (untabulated).

### 4.3. Shareholder Meetings and Accruals

Markets respond to 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). Timing of the meetings, content, and voting outcomes of the proposals play important roles in the mechanism of real effects of earnings in exercising control. *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 5 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 ISS (formerly RiskMetrics) database, we define *close shareholder meeting dummy (CSM)* to take the value of one if the next shareholder meeting is within a month of the earnings announcement, and of zero otherwise. We include an interaction term of earnings surprise (*ES*) and close shareholder meeting dummy, (*ES x CSM*), which indicates the incremental variation captured by the earnings surprise if the shareholder meeting is within the following



month. Consistent with our hypothesis, we find the effect of earnings on *voting premium* to be stronger when the next shareholder meeting, at which control rights can be exercised, is closer (Table 5, Regression 1).

Next, we test whether these results can be explained by managerial tendency to manage earnings upward prior to critical meetings (Collins and DeAngelo 1990). If incumbent CEOs, on average, report more favorable earnings during the election campaign, and if the market anticipates CEOs' tendency to manage earnings upwards right before the annual meetings, depending on the expectations and realizations, market may respond to the same amount of negative earnings surprises more or less harshly if the earnings report come right before the annual meetings. In other words, *voting premium* may react differently for the same amount of negative earnings news, if the market expects earnings of the firm is managed.

To investigate this alternative explanation, we remove earnings announcements that are more likely to contain upward managed earnings. Specifically, for each earnings, we calculate total accruals and identify the ones that are within the top 25% in the cross section in that year. Because accruals proxy for the probability of upward managed earnings (Sloan 1996), removing high accrual firms give us a sample that is less contaminated with earnings management expectations. As reported in Regression 2 of Table 5, we continue to find that the negative impact of earnings on *voting premium* holds, particularly if the shareholder meeting is close. It is worthwhile to note that the magnitudes of the coefficients of interest (i.e., the coefficients of *ES* and *ES x CSM*) and the adjusted R-squared figures are higher, compared to the Regression 1 of Table 5. These results suggest that managerial tendency to manage earnings prior to critical meetings likely contaminates, but does not drive our results.

#### 4.4. Interaction Analysis

Incentive alignment of the manager matters in the market for corporate control. This is because a firm's output performance depends on the manager's effort and the project's unobserved long-run profitability (i.e., profitability uncertainty). In his survey, Prendergast (2002) argues that in a more uncertain environment, the principal (shareholders) may want to delegate control of most decision making to the agent (manager) that leads to a positive risk-incentive relation. Consistent with this view, we find that the negative relation between earnings and the *voting premium* is stronger for firms in which CEOs have lower pay-for-performance sensitivity (Table 6, Regression 1).<sup>21</sup> This finding also suggests that the market views the internal governance mechanism of compensation contracts (pay-for-performance sensitivity) and the external governance mechanism of market for corporate control (*voting premium*) as substitutes when aligning incentives.

( ~Insert Table 6 about here~ )

Next, we use the asset structure of firms to distinguish whether *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. Liquidation option would, *ceteris paribus*, be more valuable for firms with tangible assets and generalizable assets, because these assets fetch a higher value when they are sold at 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 shareholders would prefer to liquidate the firm rather than bear predictable losses. For the firms with higher liquidation option, we expect the *voting*

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<sup>21</sup> We capture the pay-for-performance sensitivity by using the “scaled wealth-performance sensitivity” measure of Edmans, Gabaix, and Landier (2009).

*premium* to respond more strongly to unfavorable earnings surprises. Following Daniel and Titman (2006), we use B/M to proxy for tangibility. 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 R&D-to-sales ratio, which is often used as a measure of R&D intensity (Cohen, Diether, and Malloy 2013). We use 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 (Regressions 2 and 3, Table 6).

It is important to note that the liquidation, or abandonment, option value and the *voting premium* are related 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 *voting premium* to earnings surprises to be driven more by negative earnings surprises (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.

Skinner and Sloan (2002) argue that low book-to-market stocks (growth stocks) exhibit an asymmetrically large negative price reactions to negative earnings surprises, compared to high book-to-market stocks (value stocks), due to overoptimistic expectation errors. This “earnings torpedo” effect would bias against us finding a stronger negative relation between the earnings surprises and voting premium for the high book-to-market stocks in Regression 2 of Table 6. Consistent with our results, Feldhütter, Hotchkiss, and Karakaş (2016) find that creditor voting premium in bonds matter more for firms with more tangible assets.

#### **4.5. Real Effects of Earnings in Exercising Control**

Our main argument is that negative earnings increase the voting premium via increases in the prospects of exercising control to restructure/improve the firm. We have so far demonstrated evidence in support of the earlier part of this argument: negative earnings increase the voting premium. In this section, we focus on the latter part of the argument: higher voting premium is followed by higher chances of cases with control being exercised. As for the control exercising cases, we analyze the corporate restructuring, CEO turnovers (as an internal exercise of control) and the takeovers (as an external exercise of control).

*( ~Insert Table 7 about here~ )*

To isolate the real effects coming from the earnings announcements, we employ a two-step procedure such that we first estimate the voting premium changes around the earnings announcements. We then use the estimated *voting premium* to see its relation to the subsequent CEO turnover, restructuring, and takeover events. In Table 7, we report the estimates of our cross-sectional regressions that include both firm and time fixed effects. We

calculate our main variable of interest, *voting premium*, using the coefficient estimates reported in Regression 3 of Table 2. We regress three future outcome variables on predicted *voting premium*. We obtain these outcome variables using Capital IQ database key developments file: (1) CEO turnovers, (2) M&A-related news about a firm, and (3) restructuring-related news (e.g., discontinued operations and downsizing). In all these three cases, we count the number of unique control-related events reported within 24 months following a quarterly earnings announcement.

If the unexpectedly bad earnings news are indeed consequential in the subsequent control decisions, then we should also observe their impact on the real effects of the control decisions (i.e., on the realized exercises of control). Consistent with this conjecture, our evidence suggests that the predicted values of voting premium from earnings surprises explain future CEO turnovers, M&As, and restructurings (Table 7, Regressions 1, 2, and 3).

It is worth noting that *voting premium* around earnings announcements indicates the need for change within the company, which is likely to increase if the earnings fall below expectations. Hence our prediction on the relation between corporate control events and *voting premium* around earnings announcement is in regard to the attempts to change the company. For example, a string of bad earnings may trigger talks about potential takeover attempts, which could be as effective as an actual takeover to discipline the incumbent managerial team. Thus, by explicitly focusing on the intensity of the news regarding a certain form of a particular control event, our measures allow us to capture not only the actual

changes occurred in the company, but also the attempts to change the company.<sup>22</sup>

Our results resonate well with the basic tenets of the economics. When faced with losses, firms (are pressured to) take real actions to curtail operations, stem future possible losses, and/or offer better ways to bolster firm earnings. These actions could involve CEO turnovers, being a target for potential acquisitions, or major corporate restructurings. Stock prices respond favorably to value increasing CEO turnover, M&A, or restructuring announcements. In our framework, *voting premium* predicts future CEO turnovers, M&A activities, and corporate restructurings, long before the actual announcements of control-related events take place. This important distinction shows the valuable information content of earnings regarding corporate control. Collectively, results in this section suggest earnings announcements impact the *voting premium*, which in turn help predicting real changes in the company.

## 5. Conclusion

Although corporate control is a first-order issue in capital markets, 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 the earnings announcements. 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.

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<sup>22</sup> Our results are not driven particularly by this approach. We find similar results if we use the actual realizations of M&As, or focus on a binary variable, rather than the count, of the control-related events.

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 show that the value of voting rights increases when a firm announces unexpectedly negative earnings. Importantly, variation in the value of voting rights attributed to earnings surprises predicts realized future exercises of control, such as CEO turnovers, acquisition offers, and corporate restructurings.

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 the 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.

## Appendix. Variable Definitions

Variable name (data source)	Definitions
<b>Voting Premiums (OptionMetrics)</b>	
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, Karakas, and Pant 2014).
$\Delta$ Voting Premium (EA - PE)	We define $\Delta$ Voting Premium (EA - PE) as the difference of the Voting Premium around earnings announcement (EA) day, and the Voting Premium around pseudo-earnings announcement (PEA), and present the difference in percentage figures. 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 actual earnings day within the preceding quarter. To increase match quality, we only consider days that are within 5% of actual earnings announcement return and denote the day that has the closest return to actual earnings announcement return as the "pseudo-earnings announcement day". In cases where the Voting Premium is missing for the pseudo event, we fill it with mean Voting Premium of the corresponding firm.
<b>Earnings Surprises (Compustat, IBES)</b>	
Main sample	Earnings Surprise is measured by the difference between reported earnings per share and the expected earnings, scaled by price at the beginning of the year.
Analyst subsample	In our main sample, and throughout our analysis (unless otherwise stated), expected earnings are the earnings per share reported four quarter ago, obtained from Compustat.
	In the analyst subsample (Table 4, Regression 1), we use consensus analyst forecast as the expected earnings. The consensus forecast is defined as the median of analyst forecasts issued within 90 days before an earnings announcement. In instances an analyst issues multiple forecasts, we use the latest forecast. We scale the earnings surprise measure in analyst sample by 10 to make figures comparable to the ones of our main sample.
<b>Firm characteristics (Compustat, CRSP)</b>	
Size (Ln)	Size is the number of shares outstanding (CSHO) multiplied by the market value of equity calculated as the price end of calendar year prior to fiscal year (PRCC_C), and is utilized in natural logarithm.
Book-to-Market (Ln)	Book-to-Market is the book to market ratio where the book value of equity is calculated as sum of stockholders equity (SEQ), deferred tax (TXDB), investment tax credit (ITCB) minus preferred stock (PREF), and is utilized in natural logarithm.
Announcement Return (Abs)	Announcement Return is the cumulative return (-2,+2) days around the quarterly earnings announcement, and is utilized in absolute values.
<b>Other variables (ISS, Compustat, Capital IQ)</b>	
Close Shareholder Meeting Dummy	Close Shareholder Meeting Dummy takes value one if the next shareholder meeting is within a month of the earnings announcement, and zero otherwise.
Low Accruals (Ln+1)	Low Accruals are identified by removing the high accrual firms from the total accruals (i.e., observations within top 25% percentile). Accruals (ACC) are defined as (Change in current assets (ACT) - change in cash (CHE) - change in current liabilities (LCT) + change in debt in current liabilities (DLC) + change in income taxes payable (TXP)) / Average total assets (AT), and is utilized in natural logarithm of the one plus the value.
Scaled Wealth-Perf. Sensitivity (Ln(+1))	Scaled Wealth-Performance Sensitivity (WPS), which is the dollar change in CEO wealth for a 100 percentage point change in firm value, divided by annual flow compensation (Edmans, Gabaix, and Lauder (2009)), and is utilized in natural logarithm of the one plus the value.
R&D Expense over Revenue (Ln(+1))	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, and is utilized in natural logarithm of the one plus the value.
CEO Turnover	CEO turnover refers to incidence of CEO changes 24 months following a quarterly earnings announcement, calculated using Capital IQ database key developments file (Capital IQ keydeventypeid=101).
M&A	M&A refers to number of M&A related news about a firm within the 24 months following an earnings announcement, calculated using Capital IQ database key developments file (e.g. Capital IQ keydeventypeid=80).
Restructuring	Restructuring is the number of news on discontinued operations and downsizings 24 months following a quarterly earnings announcement, calculated using Capital IQ database key developments file (Capital IQ keydeventypeid=21).



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## Table 1. Descriptive Statistics

This table presents the summary statistics for our sample. Panel A reports the summary statistics on the sample. Our sample consists of US public firms in the period 1996-2013. The unit of observation is firm-quarter. *Voting premium* and other variables are as defined in the Appendix. Panel B reports the correlation matrix. Pearson (Spearman) correlations are reported below (above) the main diagonal. The bold fonts indicate statistical significance at the 1% level (except for the Spearman correlation between *voting premium* and B/M, which is significant at the 5% level).

<b>Panel A. Main Sample</b> (76,139 observations; 4,481 firms)					
	<b>Mean</b>	<b>St. Dev</b>	<b>1st quartile</b>	<b>Median</b>	<b>3rd quartile</b>
<b>Voting Premium (%)</b>	0.092	0.566	-0.053	0.052	0.191
<b>Earnings Surprise</b>	0.002	0.032	-0.004	0.001	0.006
<b>Size (Ln)</b>	7.831	1.577	6.689	7.672	8.864
<b>Book-to-Market (Ln)</b>	-0.983	0.811	-1.444	-0.916	-0.442
<b>Announcement Return (Abs)</b>	0.075	0.076	0.023	0.052	0.101

  

<b>Panel B. Correlation Matrix</b>					
	<b>Voting Pre.</b>	<b>Earn. Surp.</b>	<b>Size</b>	<b>B/M</b>	<b>Ann. Ret.</b>
<b>Voting Premium (%)</b>		<b>-0.030</b>	<b>-0.036</b>	<b>-0.008</b>	<b>0.022</b>
<b>Earnings Surprise</b>	<b>-0.018</b>		-0.002	<b>-0.045</b>	-0.004
<b>Size (Ln)</b>	<b>-0.040</b>	<b>-0.021</b>		<b>-0.165</b>	<b>-0.221</b>
<b>Book-to-Market (Ln)</b>	0.001	<b>-0.028</b>	<b>-0.167</b>		<b>-0.053</b>
<b>Announcement Return (Abs)</b>	<b>0.045</b>	<b>-0.008</b>	<b>-0.217</b>	<b>-0.035</b>	

**Table 2. Panel Regressions of *Voting Premium* and Earnings Surprises**

This table presents coefficient estimates of fixed-effects regressions of *voting premium* (*VP*) on earnings surprise (*ES*), log firm size (*Size*), log book to market ratio (*B/M*), absolute announcement returns (*Abs(AR)*):  $VP_{it} = b_1 + b_2 \times ES_{it} + b_3 \times Size + b_4 \times B/M + b_5 \times Abs(AR) + \text{fixed effects}$ . Unit of observation is firm–quarterly earnings announcement. We calculate earnings surprises based on seasonal random walk expected earnings. All variables are defined in the Appendix. We include firm and time (year) fixed effects where indicated. We treat Regression 3 as our baseline regression throughout the paper. T-statistics are adjusted for robust standard errors clustered by firm. \*, \*\*, and \*\*\* indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable:	(1)		(2)		(3)	
	Voting Premium (%)		Voting Premium (%)		Voting Premium (%)	
	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Earnings Surprise	-0.315***	-3.76	-0.335***	-4.01	-0.243***	-2.87
Size (Ln)			-0.035***	-8.14	-0.039***	-7.32
Book-to-Market (Ln)			-0.006	-1.26	0.002	0.44
Announcement Return (Abs)			0.314***	6.62	0.266***	5.55
Constant	0.092***	48.88	0.339***	9.95	0.421***	9.12
Year Fixed Effect	No		No		Yes	
Firm Fixed Effect	Yes		Yes		Yes	
Obs	76,139		76,139		76,139	
Adjusted R <sup>2</sup>	0.173		0.176		0.179	

**Table 3. Robustness of Baseline Results**

This table presents coefficient estimates of fixed-effects regressions of *voting premium* (*VP*) on earnings surprise (*ES*), log firm size (*Size*), log book to market ratio (*B/M*), absolute announcement returns (*Abs(AR)*):  $VP_{it} = b_1 + b_2 \times ES_{it} + b_3 \times Size + b_4 \times B/M + b_5 \times Abs(AR) + fixed\ effects$ . The first regression repeats our baseline specification (Table 2, Regression 3) by truncating earnings surprise at the 1<sup>st</sup> and 99<sup>th</sup> percentile. The second regression repeats the baseline specification with truncated earnings surprise and with only negative earnings. In the third regression, we repeat the baseline specification after excluding dual-class stocks from the sample. The fourth regression reports the baseline specification after excluding dividend-paying stocks from the sample. All variables are defined in the Appendix. Unit of observation is firm–quarterly earnings announcement. We include firm and time (year) fixed effects where indicated. T-statistics are adjusted for robust standard errors clustered by firm. \*, \*\*, and \*\*\* indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable:	(1)		(2)		(3)		(4)	
	Voting Premium (%)		Voting Premium (%)		Voting Premium (%)		Voting Premium (%)	
	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Earnings Surprise	-0.206**	-1.94	-0.564**	-2.31	-0.237***	-2.61	-0.243**	-2.64
Size (Ln)	-0.037***	-6.90	-0.048***	-5.07	-0.040***	-6.20	-0.035***	-5.50
Book-to-Market (Ln)	0.000	0.02	-0.012	-1.29	0.002	0.32	0.006	0.82
Announcement Return (Abs)	0.251**	5.17	0.175**	2.21	0.265***	5.05	0.240***	4.77
Subsample	Truncated		Truncated & Negative Earnings		Excluding Dual-Class Firms		Excluding Dividend Paying Firms	
Constant	Yes		Yes		Yes		Yes	
Year Fixed Effect	Yes		Yes		Yes		Yes	
Firm Fixed Effect	Yes		Yes		Yes		Yes	
Obs	75,060		31,903		75,129		72,085	
Adjusted R <sup>2</sup>	0.174		0.219		0.151		0.151	



**Table 4. Extensions of Baseline Results**

This table presents coefficient estimates of fixed-effects regressions of *voting premium* (*VP*) in Regressions 1 to 3 (and the change in voting premium ( $\Delta VP$ ) in Regression 4) on earnings surprise (*ES*), log firm size (*Size*), log book to market ratio (*B/M*), absolute announcement returns (*Abs(AR)*):  $VP_{it}$  (or  $\Delta VP_{it}$ ) =  $b_1 + b_2 \times ES_{it} + b_3 \times Size + b_4 \times B/M + b_5 \times Abs(AR) + \text{fixed effects}$ . 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 reports the baseline specification for the subsample of firms that provide no management forecast prior to earnings announcement. The third regression reports the baseline specification for the subsample of earnings announcements with the announcement returns greater than -10%. In the fourth regression, we report results of a diff-in design, at which the left hand side variable is the difference between the *voting premium* on earnings announcement (*EA*) day and the *voting premium* on a matching pseudo-earnings announcement (*PEA*) day during the previous quarter. All variables are defined in the Appendix. Unit of observation is firm-quarterly earnings announcement. We include firm and time (year) fixed effects where indicated. T-statistics are adjusted for robust standard errors clustered by firm. \*, \*\*, and \*\*\* indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable:	(1) Voting Premium (%)		(2) Voting Premium (%)		(3) Voting Premium (%)		(4) $\Delta VP_{(EA-PEA)}$ (%)	
	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Earnings Surprise	-0.235**	-2.07	-0.229***	-2.53	-0.315***	-3.45	-0.413**	-2.34
Size (Ln)	-0.032***	-5.63	-0.031***	-4.87	-0.038***	-5.94	-0.060	-0.50
Book-to-Market (Ln)	-0.011**	-2.05	0.023***	3.37	-0.001	-0.16	0.006	0.55
Announcement Return (Abs)	0.333***	4.17	0.407***	6.74	0.561***	9.79	-0.148	-0.57
Subsample	Analyst Forecast		No Management Forecast		Earnings Announcement Returns > -10%		Pseudo Earnings Announcement	
Constant	Yes		Yes		Yes		Yes	
Year Fixed Effect	Yes		Yes		Yes		Yes	
Firm Fixed Effect	Yes		Yes		Yes		Yes	
Obs	27,129		52,635		66,946		19,893	
Adjusted R <sup>2</sup>	0.072		0.210		0.155		0.132	

**Table 5. Voting Premium, Shareholder Meetings, and Accruals**

This table presents coefficient estimates of fixed-effects regressions of *voting premium (VP)* on earnings surprise (*ES*), close shareholder meeting dummy (*CSM*), the interaction of earnings surprise and close shareholder meeting dummy (*ES x CSM*), and the control variables including log firm size (*Size*), log book to market ratio (*B/M*), absolute announcement return (*Abs(AR)*):  $VP_{it} = b_1 + b_2 \times ES_{it} + b_3 \times CSM + b_4 \times ES \times CSM + b_5 \times \text{Control variables} + \text{fixed effects}$ . Unit of observation is firm–quarterly earnings announcement. We use earnings surprises based on seasonal random walk expected earnings. *Close Shareholder Meeting Dummy* takes value one if the next shareholder meeting is within a month of the earnings announcement, and zero otherwise. All other variables are defined in the Appendix. First regression is run on a subsample of observations for firms with a shareholder meetings data available in ISS database. Second regression uses the subsample of observations with shareholder meeting and the accrual data, and is run on the subsample of observations after excluding high accrual firms (within top 25% percentile). We include firm and time (year) fixed effects where indicated. T-statistics are adjusted for robust standard errors clustered by firm. \*, \*\*, and \*\*\* indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable:	(1)		2	
	Voting Premium (%)		Voting Premium (%)	
	Coefficient	t-stat	Coefficient	t-stat
Earnings Surprise	-0.195*	-1.83	-0.320**	-2.32
Close Shareholder Meeting Dummy	0.007	1.50	-0.000	-0.06
Close Shareholder Meeting Dummy x Earnings Surprise	-0.713*	-1.91	-1.246*	-1.90
Subsample	Shareholder Meetings		Shareholder Meetings & Low Accruals	
Controls & Constant	Yes		Yes	
Year Fixed Effect	Yes		Yes	
Firm Fixed Effect	Yes		Yes	
Obs	48,215		31,228	
Adjusted R <sup>2</sup>	0.100		0.122	

**Table 6. Interaction Analysis of *Voting Premium* and Earnings Surprises**

This table presents coefficient estimates of fixed-effects regressions of *voting premium* (*VP*) on earnings surprise (*ES*) and on the interaction of the earnings surprise with the following interacting variables: (i) log of one plus scaled wealth-performance sensitivity (*WPS*), (ii) log book to market ratio (*B/M*), and (iii) log of one plus research and development expense to annual revenue (*R&D*). In the regressions, we also control for log firm size (*Size*), log book to market ratio (*B/M*), and absolute announcement return (*Abs(AR)*). We estimate the following regression:  $VP_{it} = b_1 + b_2 \times ES_{it} + b_3 \times ES_{it} \times \text{Interacting Variable} + b_4 \times \text{Control Variables} + \text{fixed effects}$ . In the second specification (where interaction variable is B/M) control variables (denoted with ^) refer to *Size* and *Abs(AR)*. Unit of observation is firm–quarterly earnings announcement. All variables are defined in the Appendix. We include firm and time (year) fixed effects where indicated. T-statistics are adjusted for robust standard errors clustered by firm. \*, \*\*, and \*\*\* indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Dependent variable:	(1) Wealth-Perf. Sens. Voting Premium (%)		(2) B/M Voting Premium (%)		(3) R&D-to-Sales Voting Premium (%)	
	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
	<b>Earnings Surprise</b>	-1.178***	-3.34	-0.359***	-3.53	-0.316***
<i>Interacting Variables</i>						
<b>Scaled Wealth-Perf. Sensitivity (Ln(+1))</b>	-0.006**	-2.02				
<b>Book-to-Market (Ln)</b>			0.004	0.76		
<b>R&amp;D Expense over Revenue (Ln(+1))</b>					0.024	0.29
<b>Earnings Surprise x Interacting Var.</b>	0.303***	3.09	-0.287***	-2.76	1.532*	1.68
<b>Controls &amp; Constant</b>	Yes		Yes^		Yes	
<b>Year Fixed Effect</b>	Yes		Yes		Yes	
<b>Firm Fixed Effect</b>	Yes		Yes		Yes	
<b>Obs</b>	49,165		76,139		76,131	
<b>Adjusted R<sup>2</sup></b>	0.090		0.180		0.180	

**Table 7. Real Effects of Earnings Surprises through *Voting Premium***

This table presents coefficient estimates of fixed-effects regressions in which three distinct future outcome variables are regressed on “predicted” *voting premium*, earnings surprise, and firm characteristics including log firm size (*Size*), log book to market ratio (*B/M*), absolute announcement return (*Abs(AR)*), firm and time (year) fixed effects. We use the coefficient estimates reported in our baseline regressions (Table 2, Regression 3) to estimate the *voting premium* around an earnings announcement. Outcome variables are calculated using Capital IQ database key developments file. CEO turnover refers to incidence of CEO changes 24 months following a quarterly earnings announcement. M&A refers to the number of M&A-related news about a firm within the 24 months following an earnings announcement. Restructuring refers to the number of restructuring-related news (e.g., discontinued operations and downsizings) 24 months following a quarterly earnings announcement. All variables are defined and detailed in the Appendix. We use earnings surprise based on seasonal random walk expected earnings. T-statistics are adjusted for robust standard errors clustered by firm. \*, \*\*, and \*\*\* indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

<b>Dependent variable:</b> Real Effect within 24 Months	<b>(1)</b> CEO Turnover		<b>(2)</b> M&A		<b>(3)</b> Restructuring	
	<b>Coefficient</b>	<b>t-stat</b>	<b>Coefficient</b>	<b>t-stat</b>	<b>Coefficient</b>	<b>t-stat</b>
<b>Voting Premium</b> [predicted via Table 2, Reg. 3]	0.377***	3.14	1.217***	2.78	1.124***	2.62
<b>Earnings Surprise</b>	0.045	0.54	0.267	0.78	-0.028	-0.09
<b>Controls &amp; Constant</b>	Yes		Yes		Yes	
<b>Year Fixed Effect</b>	Yes		Yes		Yes	
<b>Firm Fixed Effect</b>	Yes		Yes		Yes	
<b>Obs</b>	65,372		65,372		65,372	
<b>Adjusted R<sup>2</sup></b>	0.195		0.476		0.421	