

Electronic Proxy Statement Dissemination and Shareholder

Monitoring

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Abstract

This study examines how the means of disseminating proxy statements affects shareholder monitoring. I exploit the staggered implementation of a regulatory change that allows firms to switch from postal mail to electronic distribution, and estimate that electronic dissemination reduces total voting participation by about 1% to 2%. Under the plausible assumption that all shareholder non-participation is from retail investors, my results imply that retail investor voting participation decreased by approximately 7% to 17% with electronic distribution. The reduction in retail investor participation shifts routine voting outcomes in favor of management's recommendations and shifts voting outcomes against management recommendations for non-routine votes. Consistent with management understanding the importance of dissemination channels, I further show management strategically uses its discretion over the choice of the proxy statement dissemination channel to affect voting.

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It is an intriguing question as to whether our own electronic delivery rules for proxy materials may have unintentionally depressed retail investor participation. . . . I believe that a retrospective review of our electronic proxy rules is long overdue.

– Michael Piwowar, SEC commissioner, Feb. 19, 2015

1. Introduction

This study examines the effects of electronic dissemination of proxy statements on the monitoring of company management by retail investors, as well as strategic decisions by management regarding how proxy statements are disseminated. Retail investors are an economically important group, and regulators have sought to increase their participation in corporate governance decisions. Although the number of retail investors holding stocks directly, rather than through a pension, hedge fund, or mutual fund, is decreasing, these investors still constitute a large portion of total investment, with an estimated 23% to 38% of the equity market, which compares with mutual funds at about 20% and pensions at around 16% (Kaiser, Snider, & Lewis, 2013)¹. One way that investors monitor management is by participating in shareholder voting. Yet, retail participation in shareholder elections is generally low. Industry estimates put retail participation at 30% (Broadridge, 2015), and I estimate average participation of 46% from 2011 to 2016, which compares with the 57% turnout rate for the 2012 U.S. presidential election (Cvijanovic et al., 2017).

The value of investor participation in shareholder meetings is a long-standing question in the literature touching on the fundamental trade-offs of principal-agent relationships. Shareholder meetings allow investors to monitor management (Appel et al., 2016) and to express their preferences to management (Hart and Zingales, 2017). However, investors have less knowledge than management about the firm and the best ways of optimizing value (Wohlstetter, 1993; Lipton and Rosenblum, 1991). This could be exacerbated among retail investors, who include some of the least sophisticated investors. Nonetheless, regulators have highlighted the importance of retail participation, a major right of shareholders, which they have a duty to protect. The Securities and Exchange Commission (SEC) describes the proxy process as a “vital means by which shareholders and company leadership communicate with one another” and wants to create rules that would increase informed participation to empower shareholders (Commissioner Luis A. Aguilar,

¹ There is large dissension in the economics literature on how to measure retail investor ownership, particularly because IRS and SEC data provide different estimates.

February 19, 2015). Legal scholars argue that retail participation is fundamental to the legitimacy of the capital markets and beneficial to aggregate welfare (Solomon, 2017). The agency has thus increased educational outreach to promote informed participation as a way to level the playing field between retail and institutional investors and increase trust in the capital markets.

Not only is the value of retail participation unknown, but the factors that drive it are largely unexplored. Previous research shows that total shareholder meeting participation is correlated with institutional ownership (Brickley et al., 1988), which is unsurprising because institutional owners typically have a fiduciary responsibility to vote. Theoretical work by Cvijanovic et al. (2017) concludes that retail participation is influenced by divergence in preferences between institutional and retail investors. Whether proxy dissemination method is a factor in retail participation is an important question among regulators. In most developed countries, the government regulates the dissemination of documents related to shareholder meetings, but regulators do not have clear measurements of the costs and benefits of electronic dissemination.

To study the effects of electronic dissemination of proxy statements on retail participation, I take advantage of two regulatory shocks: the passage of e-proxy regulation in the U.S. and the passage of Notice and Access in Canada. Before the e-proxy regulation, companies were required to disseminate proxy documents through postal mail. With e-proxy, the SEC required companies to choose between two proxy statement distribution systems, the full-access system (“full access”) and the notice and access system (“notice”). Full access requires that the company both posts proxy materials on its website and mails physical copies of the proxy documents to its shareholders. Notice allows the company to email shareholders a link to proxy materials. Implementation of the regulatory change was staggered, based on company size. The effective date for large accelerated filers was January 1, 2008, whereas for companies with public floats below \$700 million it was January 1, 2009. This staggered implementation provides variation to test the effect of e-proxy on voting patterns.

I present two theories for how e-proxy could decrease participation. First, it increases information costs for retail investors, making participation in shareholder meetings more costly. If these costs are high enough, investors might disengage. Assuming retail investors have a more elastic participation function than institutional investors, changes to proxy information costs should mainly work to enfranchise or disenfranchise them. Second, retail investors might treat the form of dissemination as a signaling device, assuming e-proxy communications are less important

because they are cheaper, and that companies send physical copies of documents for important or close elections for which participation might affect the outcome.

I use two approaches to examine the effects of e-proxy regulation, with a focus on non-routine votes, because brokers can vote for non-participating beneficial investors during routine votes, but not non-routine votes.² First, I analyze the change in participation for non-routine votes of adopting firms in the post period. Within-firm routine versus non-routine votes are the main variation. Second, I estimate a difference-in-differences specification, where I focus on how a firm's investor participation for non-routine votes decreases after the firm changes dissemination methods. In the United States, firms are not required to disclose their method of dissemination, and so I use firm filings to infer the use of full-disclosure versus notice dissemination methods. I find that e-proxy led to approximately a 1% to 2.2% decrease in total shareholder participation. On average, 13.5% of shares are not voted in my sample, due to the lack of retail participation. Therefore, the decrease represents a 7% to 17% decrease in retail participation given estimates of retail ownership and participation.

I then examine if any change occurs in voting outcomes with particular focus on the percentage of votes in agreement with management. This time I focus on the routine rather than non-routine shareholder votes. Bethel and Gillan (2002) and Akyol, Raff, and Verwijmeren (2017) hypothesize that brokers have an agency conflict, leading them to almost always vote for management recommendations, even when proxy advisors caution against doing so. Brokers, unlike mutual funds, do not disclose which votes they made relative to the votes the retail shareholders made, so enforcing a breach of fiduciary duty is almost impossible. Concerns about these agency costs were one of the reasons that Dodd-Frank restricted the types of votes that could be classified as routine. I find that as companies switch dissemination method, and presumably monitoring power transfers to brokers, the percentage of the vote that agrees with management's recommendation increases. When there are few or no non-routine votes (as we see after Dodd-Frank or in Canada), the percentage of the votes that agrees with management decreases with adoption of e-proxy.

² Thus, for routine votes, a change in retail investor participation should result in no change in observable participation, while a change in institutional participation should result in a change in observable participation. With non-routine votes, however, the broker must report its retail client's non-participation as a non-vote, and changes in participation of both retail and institutional investors are reflected in observed participation. The difference between routine and non-routine votes is explained in more detail in Section 2.

Additionally, this study provides evidence that management strategically invests in dissemination. Although the primary reason for using electronic dissemination is to save money for the firm, when a strategic or close vote takes place, management becomes more sensitive to participation of retail investors and increases spending on dissemination of proxy materials by using the more expensive physical dissemination. This shows that management is aware of how dissemination methods can affect the level of monitoring and makes dissemination choices while weighing the cost of dissemination against the benefits of increased retail investor participation. Participation might be important to management if the company is close to quorum requirements, or if it believes retail investors might be more in agreement with management than institutional investors. I study this post-Dodd-Frank, when e-proxy is associated with a decrease in votes in agreement with management, and I show that management's voluntary use of electronic dissemination is negatively associated with special contests and votes that fail.

I also study implementation of Canada's similar notice and access regulation in February 2013. The Canadian regulation created requirements for notice dissemination very similar to requirements in the United States, with only three major design differences. The first is that companies must disclose the dissemination method, which helps address measurement issues. The second is that, unlike in the U.S., where large firms adopted first, in Canada, smaller firms registered at the provincial rather than the federal level could adopt first. This helps give additional generalizability to my results because I am no longer relying on a single size cut-off. The third is that the notice must be designed so that investors will not need to go to the site with the proxy materials to vote, because a paper ballot was still sent to investors unaccompanied by a proxy document. Thus, the mechanism is even more unambiguously the change in information dissemination rather than ease of voting options.

The detail available in the Canadian setting highlight a selection effect that works against finding a decrease in votes in agreement with management. Specifically, across firms there is a positive correlation between voting outcome and use of notice and access, driven by registered investors, the group of investors that firms have the most information about and access to. However, when I overcome this selection issue by looking at the variation within a firm and trying to controlling for the controversy of the vote, the relation between voting outcomes and use of notice and access becomes negative. Use of notice and access for the entire investor base is associated with a 1.1% decrease in votes in agreement with management's recommendation. This is consistent with the firm dissemination switching I observe. The votes for which a 1.1% change

in the vote would be economically significant are disproportionately likely to be important votes for the future of the firm.

Lastly, I find a decrease in voter participation in the Canadian setting, particularly when the firm uses notice and access for beneficial investors. I estimate the effect of notice and access for beneficial investors to be a participation decrease of around 12% and for the entire investor base to be a participation decrease of around 14%. These effects are larger than the effect that I found in the U.S., and it is unclear if that is because of the differences in investor bases between the two countries, or the higher quality of the Canadian data. The Canadian setting, with its high-quality data, confirms that the rate of notice and access use for special elections is lower than the rate of notice and access use for annual meetings and that firms switch dissemination methods for important elections.

This study contributes to the literature by measuring individual investor participation and expanding our knowledge on what affects participation. This paper shows that larger firms have higher participation on average and confirms that previous estimates such as in Bethel and Gillan (2002) underestimated non-participation due to sample restrictions. This is the first paper to estimate individual investor participation. This paper also provides evidence that dissemination changes allowed by U.S. E-proxy and Canadian Notice and Access had an effect on participation.

This paper also adds to the knowledge of the effects of dissemination by including corporate governance and compensation through proxy voting. Bushee et al. (2010), for example, show the importance of media coverage, an external disseminator of accounting information. Blankespoor et al. (2014) examine voluntary dissemination, firm use of Twitter, and increased firm liquidity. Christensen et al. (2017) look at a regulatory dissemination change, addressing how including known information in an accounting document makes the information more impactful. My research helps quantify the non-monetary consequences when a company decides to stop sending the annual statement and proxy statement in the postal mail and instead rely on the internet as I document that over 31% of U.S. and 19% of Canadian companies are now doing annually.

Prior literature shows that close votes are discontinuously more likely to result in agreement with management's recommendation, which implies that management is able to affect the vote (Babenko et al. 2018). The literature has explained this result by showing multiple channels through which management can strategically affect voting outcomes (Fos and Jiang 2015; Soltes et al. 2017; Cvijanovic et al. 2016; Babenko et al. 2018). Managerial decisions that can affect the voting outcome where the proposed channel is participation include whether to employ

the services of a professional proxy solicitation firm (Young et al. 1993) or when to call for polls closing and how to reconcile discrepancies in vote counts (Kahan and Rock 2008). My research contributes to this literature by providing yet another channel through which management tries to strategically affect the vote.

2. Regulatory Background

This study examines two regulatory changes: the U.S. e-proxy regulation and the Canadian notice and access regulation.

2.1 SEC E-Proxy

The SEC's e-proxy regulation introduced electronic dissemination of proxy materials. E-proxy companies had previously been required to disseminate proxy materials physically in the mail. The SEC allowed firms to choose between two new dissemination methods: the notice method and the full access method. In both, public companies had to make their proxy statements and annual reports available online (on a website other than EDGAR) to provide investors with more options to receive information. Additionally, companies were required to send a notice with the web address when the statements were posted online, and intermediaries were required to pass the notice to all beneficial shareholders. With the notice method, dissemination of the notice via email was sufficient. With the full access method, the notice was simply added as part of the proxy document. Notices for how to find the proxy materials online could also be posted separately on EDGAR as DEFA14A or as part of the proxy document, DEF 14A, depending on the dissemination method chosen.

E-proxy had a staggered introduction, which allows for a cleaner identification of the effects of electronic dissemination. On December 8, 2005, the SEC first proposed e-proxy. The earliest voluntary adoption of this portion of the regulation was allowed on July 1, 2007. Although most large firms had the proxy documents on their company's website before the legal requirement, they were restricted from sending the notice form before July 1, 2007. Large accelerated filers were required to adopt an e-proxy dissemination method by January 1, 2008. All other public companies had an effective date of January 1, 2009.

The SEC allowed some stipulations to protect investors. Investors could contact the company or their broker regarding their individual preference for receiving e-mail or physical copies of proxy statements and annual reports. The default was electronic dissemination for the

notice method, and physical dissemination for the full access method. During this time, if retail investors did not send in proxy forms ten days before the shareholder meeting, brokers could consider them as non-participating. Requests for a change in the dissemination method from the default could lead investors to miss the ten-day cutoff. However, most investors did not deviate from the default, with most companies reporting only around 1% of investors requesting a return to physical mail if the company chose to use notice dissemination.³ Lastly, the regulation required protection of the shareholders' anonymity for both dissemination methods.

E-proxy only changed the dissemination method; all else stayed the same. The SEC gave strong guidance on how the notification was to be formatted and specified what information was required and permitted. Nothing about the contents or the formatting of the proxy document changed with the rule change. The regulation did not require online proxy voting, although it was permitted. Alternatively, the company could provide a printable proxy form or display a toll-free phone number with the online proxy material.

The SEC made this change to help reduce information-dissemination costs for firms. Because this regulation was designed to help cut costs, firms are unlikely to try to strategically avoid the regulation. For example, firms are unlikely to try to manipulate their classification as large accelerated filers.

However, before implementation, the SEC did receive several comments that the new procedures could lead to a change in investor participation in proxy voting. The comments were split on whether this change would lead to an increase or decrease in investor participation, with more firms commenting that they believed it would increase participation. The SEC noted, in Release No. 34-55146, that more people sent in letters predicting an increase in participation than letters predicting a decrease. This response led to the SEC initially having low expectations of negative changes in participation.

After implementation, comments from high-level SEC employees suggest the agency started hearing complaints that e-proxy led to lower participation and that the SEC had no idea what was driving this decrease or how to verify these stories. Previous chairman, Mary Jo White, asked anyone with more information about e-proxy to contact the SEC. In a speech in 2008, SEC commissioner Paul Atkins said the distribution change might have led to an approximately 70% decrease in retail participation, which is a substantial enough drop to impact corporate

³ <https://www.sec.gov/comments/s7-28-07/s72807-169.pdf>

governance.⁴ Because of the SEC's fear of falling participation, the agency created a website and hotline by 2010 to help confused investors understand e-proxy.⁵

Statements like this one rely heavily on information from Broadridge (formally ADP Shareholder Services), the company that has a majority market share in proxy-voting logistics, and, to my knowledge, they have not been verified. Broadridge sent a letter to the SEC in 2009, after the regulation took effect, and the company's representatives met with the SEC to discuss the regulation. Appendix A, Exhibit 5, presents some of Broadridge's disclosures to the SEC regarding e-proxy. Broadridge has stated it noticed lower participation rates among beneficial shareholders from firms that chose the notice and access system, but said it did not have time-series data to determine why participation might have declined (Broadridge, 2009). The Institutional Shareholder Services ("ISS") data I use includes time-series data, which allows me to assess whether the firms that chose the notice and access system had lower participation before the law was enacted, and to try to determine what predicts the choice of distribution system. However, unlike Broadridge, I cannot see retail participation for routine items.

Because electronic dissemination is not specific to proxy dissemination, the SEC's impression of the cost-benefit trade-off resulting from e-proxy has continuing policy ramifications. The SEC has continued to push back electronic dissemination of mutual fund prospectuses. Commission members, such as Kara Stein, have said numerous times in interviews with *The Wall Street Journal* that they are "concerned the benefits of any switch to default digital delivery, in the form of reduced printing and distribution fees, are outweighed by potential harms such as reduced investor access to critical fund reports. 'At this time, I remain concerned about interfering with investor choice without clearer evidence that it will not do more harm than good'" (Ackerman & O'Conner, 2016).

2.2 Canadian notice and access

On February 11, 2013, Canada launched its notice and access regulation from an amendment to Part 9 of NI 51-102 "Continuous Disclosure Obligation" and NI 54-101 "Communication with Beneficial Owners of Securities of a Reporting Issue." As with the U.S. version, Canadian firms could voluntarily choose to use the notice and access system. Whereas the

⁴ He gave estimates in which the number of retail accounts voting had "over a 70% drop" and the number of retail shares voting had "a 48% drop." Broadridge estimates that around a third of all retail investors voted before the rule change. If those figures are correct, this reaction caused between a 3.5% and 9% drop in total shareholder voting.

⁵ The website can still be found at <https://www.sec.gov/spotlight/proxymatters/e-proxy.shtml>.

provincial corporate governance statutes had no references to notice and access, the Canada Business Corporate Act specifically required it. This difference created a two-tiered system in which firms registered at the provincial level could easily adopt notice and access, whereas firms registered at the federal level needed to get approval. Unlike in the U.S., smaller firms could therefore adopt before larger firms in Canada.

Furthermore, because the Canadian regulators were aware of the political outcry after the U.S. e-proxy regulation, they intentionally changed two things. First, Canadian firms were required to post a detailed description of proxy-dissemination practices 20 days before the meeting. This disclosure allows me to determine how an investor should expect to receive proxy documents in Canada more easily than in the U.S., especially because some firms use a mixture of notice and access and full dissemination. This difference is beneficial to my research design because it makes identification of treatment more reliable. Second, Canadian regulators changed the design of the notice in a fundamental way. Their U.S. counterparts had wanted to ensure retail investors had read the proxy documents before voting, and thus required investors to go to the website with the proxy documents to access the voting instructions.⁶ In Canada, physical proxy cards with postage can be distributed without sending out a printed proxy document with it, and investors do not need to go through the proxy document to vote online.

Another difference between the U.S. and Canada when looking at voting issues is the treatment of broker non-votes. The distinction between routine and non-routine votes and existence of broker non-votes is a U.S. phenomenon. Some cross-listed firms with large U.S. ownership will report broker non-votes, but that is the exception rather than the rule. There are factors other than broker voting that limit the sample in Canada. For example, when estimating the participation effect in Canada, I exclude all votes determined by show of hands, which is still a valid method of counting votes for some Canadian firms. However, there is no routine/non-routine distinction except for cross-listed firms.

Although no study has been made of the Canadian regulation,⁷ Broadridge has again provided statistics. These statistics show that, unlike in the United States, retail investor participation in Canada potentially increased somewhat with notice and access adoption.⁸ This

⁶ Although U.S. regulators did allow companies more flexibility with the design of the notices starting in 2010, they did maintain the principle that the design should promote reading the proxy document before voting.

⁷ As of my conversation with an Ontario Securities official on March 17, 2017, no internal review of the regulation has occurred.

⁸ They show a 7% increase in notice and access participation in comparison to the traditional dissemination.

finding suggests the United States could reform proxy dissemination in simple ways to increase participation without giving up notice and access or electronic dissemination.

3. Predictions

This study is one of the first to investigate what drives participation in shareholder meetings. Therefore, I start from what we know about participation in political elections. As with the political setting, an investor's decision to vote can be represented as a maximization function whereby increased value of the firm from monitoring and psychological factors increases utility from voting. Most economic models for political voting are based on Riker and Ordeshook's "A Theory of the Calculus of voting", that gives the following model for voting:

$$V = PB + D \geq C$$

V is the latent utility from voting. P is the probability that the voter's vote will decide the vote. B is the expected monetary benefit of the voter's preferred outcome, making PB the combined expected benefit of voting (Riker & Ordeshook, 1968).

In the traditional models, D represents a civic duty to vote, but in my model, D is the psychological benefit from exercising one's right to vote. As owners of the firm who have trusted the company to an agent, investors do not have a duty to vote, as citizens do for political voting. Investors do have the right to vote and may reap psychological benefits from exercising that right, such as feeling a greater connection to the company. Fama and French (2007) provide evidence that investors receive non-monetary benefits from ownership; therefore, to extrapolate that some investors receive non-monetary benefits from voting is not unusual.

Lastly, C is the cost of voting. Information costs, such as the opportunity costs of finding and understanding the proxy documents, decrease participation. I assume C is a fixed cost all investors must pay and is heterogeneous to investors, but an increase in ownership will not increase C . Essentially, C is the one-time commitment of time needed to read a proxy and become informed. Some investors will have a higher premium on their time, but ownership should have no causal relation with C , only B . C might be dependent on sophistication.

The regulation should affect the model in two ways, which I explain in the following sections. The major predictions from the two are similar, but the policy implications differ.

3.1 Information Costs

The first way of viewing this regulation is as a shock to C. If electronic dissemination increases (decreases) information costs, I expect participation to decrease (increase). Electronic dissemination might increase information costs for retail investors for several reasons. Electronic dissemination might affect the ease with which investors can find and access the proxy document, or it might change the ease of processing the information within the proxy document.

Psychologists and educational specialists have studied the effects of electronic versus paper documents on information processing. Muter et al. (1982) find that reading speed is slower and comprehension higher for paper books than for the same material on a computer. Switchenko (1984), by contrast, finds no effect when the text formatting perfectly matches, and the difficulty of the passage is lowered. Subsequent literature finds such factors as lighting, the reader's posture, and spacing between lines often reduces or eliminates differences between the media (Osborne & Holton, 1988). Firms disseminating complicated text cannot control the lighting or the reader's posture. Randomized trials show students reading printed texts score significantly better on reading comprehension tests than those reading text off computer screens (Mangen et al., 2013).

We can reasonably assume a shock to C would have a greater effect on retail investors than on institutional investors. Retail investors are frequently less sophisticated, which might change the degree to which C changes when dissemination changes. Furthermore, many institutional investors use standardized information platforms, with additional information from proxy advisors, which would help insulate them from dissemination changes. Therefore, I would expect any participation change to be driven by retail investors, which leads to my first hypothesis.

H1: If e-proxy represents an increase (decrease) in fixed costs, participation, particularly from retail investors, will decrease (increase).

Under the information-costs model, a change in participation related to e-proxy implies a transfer of wealth among investors. Whereas the firm was previously paying some amount X to disseminate this information to unsophisticated investors, it now saves X and distributes that savings through earnings based on ownership. Unsophisticated investors, who are more likely to be small minority investors, end up either paying the shock to C or becoming disenfranchised. Thus, the new regulation would essentially move the burden of costs from large investors to small ones.

3.2 Signaling

An alternative explanation is that e-proxy creates the opportunity to signal the expected benefits of a vote. A signaling model implies B is not the same for all votes and not observable. Although I call this signaling, the model would have to differ slightly from the traditional Spence (1973) signaling model, which considered education. Descriptions of the specifics of this model and how it differs from Spence (1973) can be found in Appendix B.

Fewer retail investors might participate when information is disseminated electronically, because they take this as a signal that a vote is not important. Printing and postage makes physical dissemination costlier, potentially allowing dissemination to serve as a costly signal. Estimates from Broadridge suggest electronic dissemination of proxy materials saves U.S. firms over \$500 million per year, and other estimates show notice and access saves about \$350 million per year (Broadridge, 2015).⁹ Statements from various companies suggest they save around 10%–15% of their investor relations' budget by switching to the notice method (Jones, 2008). Firms can justify the cost of important votes for which modest increases in participation could have large implications for the firm or management. For unimportant votes, this spending could be interpreted as investor relations departments wasting money.

If a decrease in participation stems from the signaling explanation, retail investors are efficiently using their time. Before, they could not distinguish important and unimportant votes until after they had become informed. At that point, it was rational to vote. Now, able to differentiate, they can better allocate their time. This interpretation differs from the one stemming from the information-costs model. Because my study will not be able to disentangle which of these two models is driving my findings, the policy interpretation of my findings is somewhat open-ended.

3.3 Participation and Voting

Non-routine does not necessarily imply importance, though a strong correlation exists. Non-routine votes are votes the New York Stock Exchange has declared brokers cannot vote when retail investors have failed to submit voting instructions. In Exhibit 4, I discuss what is considered

⁹ <http://www.broadridge.com/news-events/press-releases/Broadridge-Reports-Annual-Proxy-Season-Statistics.html>. <http://media.broadridge.com/documents/Broadridge-Distribution-and-Voting-Trends-2015.pdf>. A main difference between the two is that Broadridge does not classify institutional investors' use of electronic dissemination as notice and access, because it sells separate electronic platforms for dissemination to these investors.

routine and non-routine. This classification difference creates different expectations of what will happen to the vote when participation decreases.

For non-routine matters, a broker must give a separate non-vote for the beneficial shareholders, which are retail investors or insiders. Because most retail investors own shares “in street name,” most of them are beneficial shareholders. Therefore, for non-routine issues, if retail investors are not participating, we would expect the number of these non-votes to increase.

Bethel and Gillan (2002) provide evidence that, whereas some brokers used the recommendation of proxy advisors to determine how to vote the uninstructed shares, many simply vote with management (Bethel & Gillan, 2002). They find, for example, that routine stock-option proposals receive more pro-management votes than non-routine stock-option proposals, even when controlling for ISS’s recommendation. These findings comport with much of the anecdotal evidence from activists and journalists.

The argument for why brokerages do this is rooted in agency conflicts. Especially if the brokerage is not an owner in its own right, it has no incentive to become informed. Doing so would be costly, and the broker would not receive economic benefits from the monitoring. Unlike mutual funds, brokers have no voting reporting requirement, making it difficult to hold brokers accountable for breaches in fiduciary duty related to proxy voting. By contrast, by voting with management, brokers might be able to increase connections with management, which could bring in more commissions for the brokerage. This leads to my second hypothesis.

H2: If adoption of e-proxy leads to a decrease (increase) in participation, an increase (decrease) in votes aligned with management recommendations will occur for routine votes.

3.4 Strategic Dissemination

Assuming management understands the relation between electronic dissemination and participation, managers may use dissemination to strategically influence votes. In line with the prior hypotheses, management has no incentive to spend money to increase votes for routine matters, which tend to be less important and for which brokers will likely vote in favor of their recommendations. For non-routine votes, when brokers cannot vote in favor of their recommendations, management has the incentive to increase retail investor participation if retail investors are more aligned with their interests than institutional investors. Alternatively, these votes tend to be more important and contentious, and so management might want to increase

participation simply to have a more representative population of shareholders. I use three variables to measure the likelihood of having important and contentious non-routine votes. The first is the type of meeting. Special meetings and proxy contests are called specifically because important or contentious non-routine items matters have arisen that voters need to consider. The second is a vote ex-post failing. Lastly, I examine whether the vote received less than 70% support and management recommended investors vote “for.” This leads to my third hypothesis.

H3: Management will invest more in dissemination for non-routine votes that management perceives as important or contentious.

4. Data

4.1 Measuring Participation

I begin by constructing a measure of shareholder participation. I use voting data from ISS (formerly RiskMetrics), which compiles the voting records from 10-K, 10-Q, and 8-K filings for the Russell 3000 firms in the U.S. I define participation as Votes For + Votes Against + Votes Abstain + Votes Withheld (a classification of votes within ISS from before 2006, which lumps Votes Against and Votes Abstain together), divided by the total number of shares outstanding. ISS reports participation at the meeting item level because participation will vary between items in a meeting. Meeting items with total votes cast exceeding the total number of shares outstanding are excluded from the sample. Meeting items with no reported participation are also excluded.

Historically, true participation could be observed for only a fraction of all companies. Before 2010, brokers could vote on behalf of their clients on routine issues if those clients did not vote. Brokers did not need to disclose which of the votes retail investors cast and which votes brokers cast for them. Therefore, seeing actual participation by retail investors is difficult with routine votes, which were more prevalent before 2010. Full retail participation can be seen for non-routine votes; however, those are more likely to be complex issues, and more active attempts are often made to increase participation in meetings with many non-routine votes.

In 2010, Dodd-Frank changed the definition of non-routine votes. Section 957 of the law required that NYSE Rule 452 be changed to include more items as non-routine. Since the change in 2010, almost every firm has at least one non-routine voting item. The full definition of routine

and non-routine votes before and after Dodd-Frank can be found in Exhibit 4. In Section 5, I describe how I partition the sample before and after Dodd-Frank.

To interpret e-proxy's effects on participation, I estimate total non-participation as a percentage of outstanding shares. The regression for total non-participation can be found in Table 2 Panel A. I use the difference in participation between routine and non-routine votes to represent the amount of beneficial non-participation as a percentage of outstanding shares. The regression shows a 13.5% average, which I use for benchmarking the results of my participation tests. I also calculate yearly regressions on the difference between routine and non-routine votes with meeting fixed effects. Estimates resulting from the use of this method resemble estimates of participation from taking the average broker non-votes divided by outstanding shares for non-routine votes during a calendar year.

One issue with previous estimates of broker non-votes is that they were not for the entire U.S. market (all previous estimates were for a small sample of large companies) and were usually not framed as participation measures.¹⁰ In Panel B, I estimate the yearly averages post Dodd-Frank, where I can now give the average of non-participation for the entire Russell 3000. By showing that from 2010 to 2016 the Russell 3000 had average yearly non-participation averaging 13.5% with yearly averages as high as 14.6%, I confirm that previous estimates were too small. Furthermore, I provide evidence that this was because previous samples favored larger firms in Panel C, where participation is broken into total assets quantiles.

I use Thomson Reuters Data to subtract institutional and insider ownership to provide the estimate of individual investor participation (retail and insiders). In Panel C, I show this estimate partitioned by size of total asset quantiles. For the total sample, individual participation is 46%. Participation is highest for the largest firms (59.7%) and lowest with the middle quantile (32.5%). This is higher than the number that SEC officials have cited in speeches, policy documents, and testimony to Congress, which is based off reports from Broadridge.¹¹ Broadridge does not typically

¹⁰ As mentioned before, two papers about the NYSE policy regarding the definition of routine and non-routine votes reported estimates of broker non-votes. Akyol et al. (2017) estimated broker non-votes from 457 firms in fiscal 2009 of roughly 12%. Bethel and Gillan (2002) estimated broker non-votes as between 12.4% for 1997 from a sample of 676 votes (11% for 320 management non-routine votes and 13.6% for 356 shareholder proposal non-routine votes) from firms larger than the general population.

¹¹ For example, when discussing the policy objectives for his tenure as chairman of the SEC, Jay Clayton used a Broadridge estimate to justify a major overhaul of the proxy voting system. He said: "In the 2017 proxy season, retail shareholders beneficially-owned 30% of the shares in U.S. public companies; however, only 29% of those shares voted. This may be a signal that our proxy process is too cumbersome for retail investors and needs updating." (Nov. 8, 2017)

provide much information about the construction of its estimate; however, it does mention removing all institutional ownership and does not mention removing insider participation. Theoretically, Broadridge and I should be measuring the same construct, although Broadridge might be reporting percentage of investors, while I am reporting percentage of shares. To my knowledge, this is the first study to attempt to construct this variable.¹²

With all my tests of participation, I rely on public data on participation as reported in a 10-Q or 8-K. Companies are more likely to have errors in the participation data if there is more short selling (Kahan and Rock, 2008). Short selling makes record keeping determining voting rights harder. Therefore, I present my data segmented by the amount of short positions at the end of the month prior to the meeting date. I use Compustat's short positions data and then group firms into quintiles. As can be seen in Panel D, the mean participation rate is much lower for the firms in the top quintile of short selling than the bottom quintiles. The degree to which that can be attributed to improper disclosure, rather than differences in the firms or the investor base, cannot be determined from this level of analysis.

4.2 Measuring Treatment

Next, I construct two measures of electronic dissemination. The first, which I call regulation, is based on the e-proxy regulation. Companies with a public float of more than \$700 million, classified as "large accelerated filers," had to allow investors to receive their proxy material and annual statements in the mail or electronically. I hand-collected the public float from 10-K filings for 2007 and 2008 to determine whether a firm would be required to adopt the SEC e-proxy and verified the results with Audit Analytics.

I identify adoption of e-proxy by the inclusion of "Availability of Proxy Materials" in either the definite proxy document (DEF 14A) or an additional definite proxy document (DEFA14A).¹³ The full access method requires the company to include in the physically distributed copy a page

¹² Cvijanovic et al. (Sept. 2017) claims to be the first researchers to estimate U.S. corporate election participation. They estimate that there is 73% turnout for "discretionary voting," which includes pensions and hedge funds, because they claim that SEC Final Rule IA-2106 is not "practically enforced" for those institutions. However, such institutions typically have at least a 95% participation rate, where non-participation is often caused by unusual circumstances, such as a sale of the shares between the record date and the meeting, because they still have a fiduciary obligation and can be legally liable for non-participation. Therefore, I have no issue removing all institutional ownership to obtain a measure of participation more relevant to my setting and to a set of policy concerns.

¹³ According to the Federal Regulation allowing e-proxy, §240.14a-16(h)(2)(i), "The registrant must file a form of the Notice of Internet Availability of Proxy Material with the Commission pursuant to §240.14a-6(b)." §240.14a-6(b) requires all other soliciting material, besides the definite proxy statement, to be filed with the commission, which is why the DEFA14A for additional proxy materials was created.

informing investors of the new website location of the proxy materials. The emails used in the notice and access dissemination allowed by e-proxy are one of the many types of disclosures that fall under the DEFA14A category. Other types of disclosures include social media posts about the shareholder meeting, PowerPoint presentations from the meeting, and letters to large investors related to meeting items. The appearance of the notification in a DEFA14A shows that the company created a separate email notification and is at least partially using the notice-dissemination method.

Not all companies that adopt e-proxy file a DEFA14A, which could lead to noise in my measure of treatment. Broadridge claims that at least 40% of all shareholder meetings use notice and access and that the percentage among larger firms is even greater. However, in Table 6, I find only around 31% use notice and access. The discrepancy ultimately comes from the legal counsels of non-DEFA14A filing firms. The courts have given materiality rules to §240.14a-6(b), following the ruling in *TSC Industries, Inc. v. Northway, Inc.*, 426 U.S. 438 (1976); for a lawsuit to proceed, the rule requires a substantial likelihood that a reasonable stockholder would consider information important in deciding how to vote on a matter. Application of materiality varies widely between companies, leading to highly divergent disclosure policies regarding any kind of additional proxy material. If I assume the missing DEFA14As are due to legal counsels deeming notices nonmaterial, I would be concerned that the posting of a DEFA14A might simply reflect the legal counsel revising materiality, rather than the firm changing its practice. The total number of DEFA14As does not seem to increase around contentious elections. Instead, I find that companies that previously filed notices as DEFA14As stop around contentious elections, which is consistent with strategic action but not consistent with my findings being driven by materiality.

The issues with identifying a firm's dissemination method in the United States are alleviated in Canada. In Canada, companies must disclose, before all shareholder meetings, how they will disseminate proxy materials, as an additional line in a highly regulated document. Canadian firms also must explain their criteria for determining use of notice and access if they selectively use the practice for only certain parts of their investor base. I refer to criteria to determine which portion of the investor base will use notice and access as stratification criteria. In Canada, most reported stratification criteria fall under three types. The first is whether the investor is a registered or beneficial shareholder. The second is the physical location of the shareholder. The last is the number of shares held by the shareholder. Because few incentives to misreport the

company's dissemination practices to regulators exist, these data should have minimal measurement noise.

4.3 Sample and Controls

My sample extends from 2005 to 2015. I exclude companies that Compustat reports as non-U.S. firms, because most foreign filers are not subject to Rule 14(a) for my main tests. Institutional ownership data comes from Thomson Reuters 13F database, using the total institutional ownership as a percentage of the outstanding shares variable. Control variables for the director elections voting outcomes test come from ISS Governance data. More information about the construction of controls can be found in Appendix B. Table 1 provides the descriptive statistics for all variables.

4.4 Canadian Data

In the Canadian tests, I construct participation and voting outcomes from Global ISS data that start in 2013. I add voting data provided by the Canadian Securities Administrators, compiling public voting data starting in 2010. Because the Canadian securities market is much smaller than the U.S. market and because Canada adopted later, I will have a smaller sample for Canada. There is one issue that greatly decreases my sample size, and that is missing outstanding shares information in the ISS data. I construct participation in Canada very similarly to the United States, and therefore I use ISS's outstanding shares as the denominator in my participation fraction in both settings. In the United States, ISS has very few missing observations for that variable; however, ISS's Canadian data is missing the number of outstanding shares for a large number of observations. For other tests besides the participation test, I treat votes for + votes against + votes abstaining as the number of shares outstanding to increase sample size. Those observations are dropped when I estimate the participation effect.

4.4.1 Measuring Treatment

Treatment will be constructed based on firm disclosures of dissemination methods in the "Notice of the Meeting and Record Date" form that must be filed at least 20 days before a shareholder meeting and that was also provided to me by the Canadian Securities Administrators. According to my agreement with the Canadian Securities Administrators, I can provide only aggregate-level statistics on all data that they have provided.

In the Notice of Meeting and Record Date form, firms answer whether they will use notice and access for registered investors, whether they will use notice and access for beneficial investors, and whether they have stratification criteria (and, if so, what they are). Because of the detail in the

data, I construct several treatment variables. *Beneficial Investor Notice and Access* indicates whether the firm responded yes to the question about whether it used notice and access for beneficial investors. *Registered Investor Notice and Access* indicates whether the firm responded yes to the question on whether it used notice and access for registered investors. *Any Notice and Access* indicates whether the firm responded yes to either of those questions. Lastly, *Notice and Access* is equal to 2 if the firm disclosed that it was using notice and access, the Canadian version of e-proxy, for all investors, equal to 1 for some subset of investors, and 0 if it used full access.

5. Research Design and Results

In my analyses, I first identify the effect that electronic dissemination of proxy materials had on retail investor participation and voting outcomes. Then I provide evidence that management is switching dissemination methods during important elections in which management might want to increase participation.

5.1 Effect of Electronic Dissemination on Participation

I use two empirical designs to identify the effect that adoption of electronic dissemination had on retail investor participation. The first, Design 1, relies on variation between routine and non-routine votes within a single meeting. The second, Design 2, examines just the non-routine issues and relies on the variation in adoption time between firms.

5.1.1 Design 1

First, I use a triple difference (DDD) design in which I examine participation changes for non-routine votes in the treatment group during the post-period. Participation will vary within a meeting for every vote, as investors may choose not to vote at all on a particular issue. Routine votes would not show much of a participation change if retail investor participation patterns changed, because most retail investors own shares beneficially, and the institutional brokers would perfectly offset any change in participation from beneficial retail investors. Therefore, I use them as a control group for any shock that might affect beneficial and registered shareholders' participation equally. Non-routine votes by firms not in the treatment group also serve as a control. My model, suppressing year, firm, and voting item subscripts, is:

$$\begin{aligned}
 \text{Participation} &= \alpha + \beta_1 \text{Regulation or DEFA} * \text{non} - \text{routine} + \text{Controls} + & (1) \\
 &\text{Meeting}_{FE} + \text{Non} - \text{routine} * \text{Year}_{FE} + \varepsilon.
 \end{aligned}$$

The dependent variable is participation. The variable of interest is either Regulation*non-routine, my measure of treatment based on which firms were subject to the e-proxy regulation interacted with an indicator variable that equals one when the vote is non-routine, or DEFA*non-routine, my measure of treatment based on observation of a DEFA14A filing of a notice interacted with an indicator variable that equals one when the vote is non-routine. Thus, the coefficient estimate β_1 will be positive if the regulation increased participation or negative if it decreased participation. I include meeting fixed effects to control for firm and time varying characteristics. I include meeting-level fixed effects, because multiple meetings are held per year, and meeting fixed effects subsume firm*year fixed effects. I include year*non-routine fixed effects to control for time trends in the retail participation. I cluster observations at the firm level.

Because little empirical evidence of what drives participation in shareholder meetings is available, I first use my model to determine the controls for the regression. In the model, the major source of omitted-variable bias would have to come from a simultaneous shock to D, which in this setting is psychological benefits retail investors receive for exercising their voting rights. Most variables political scientists have associated with D are unobservable in this setting. I use both my fixed effects structure and several controls to deal with shocks to D. In talking to corporate governance consultants tied to Broadridge and PricewaterhouseCoopers, I found they focused on whether the topic of the vote was likely to inspire investors' loyalty to the firm. Because they typically use the description of the vote, such as whether it was a merger vote or a compensation vote, to determine their expectation of retail investor loyalty, I control for several different types of votes. The contentiousness of the vote might also be associated with the importance investors place on exercising their rights; therefore, I control for the closeness of the voting result.

I also use the literature on voting outcomes and the criteria for treatment to determine controls. Cai, Gerner, and Walkling (2009) find director meeting attendance and ISS recommendations had the biggest economic impact on shareholder votes for directors. Unfortunately, I do not have ISS recommendations; therefore, I include a variable to interact earnings per share with non-routine votes. Because firm size drives the variation, I add two controls to obtain interactive effects based on the logged total assets and logged market value of the company.

5.1.2 Design 2

One potential concern of Design 1 is that the changes in non-routine votes over time, particularly due to Dodd-Frank, might be influencing the results. Design 2 addresses this concern by limiting the sample to include only non-routine votes from before Dodd-Frank changed NYSE Rule 452. Restricting both the years and the type of vote significantly decreases the sample size. I use a standard difference-in-differences model. My model for Design 2, suppressing year, firm, and voting item subscripts, is:

$$Participation = \alpha + \beta_1 Regulation\ or\ DEFA + Controls + Year_{FE} + Firm_{FE} + \varepsilon. \quad (2)$$

The dependent variable is still participation. The variable of interest is Regulation or DEFA, my two measures of e-proxy adoption. I include year fixed effects to control for time trends in participation. The year fixed effects and controlling for Delta Earnings should control for the recession. I include firm fixed effects to control for time-invariant characteristics of the company investor-base and participation. The concern with this regression is that, because it relies on changes in the time of adoption, I might not be able to sufficiently control for the differences in other time-variant firm characteristics not related to the e-proxy regulation. However, Design 1 addresses that concern because it uses within-meeting variation, allowing the firm within the same period to be its own control.

5.1.3 Estimates on Participation Effect

The estimates of the effect on participation can be found in Table 3. Column 1 shows a statistically significant decrease of around 2.2%. Given the estimates from Table 2, I can interpret this as a 16.3% increase in non-participation. For Design 1, I cluster the standard errors by firm, although in non-tabulated results, I find this result is robust to industry or firm and year clustering. Because the dependent variable is a fraction out of 1, we can interpret the coefficient as a percentage decrease in total shareholder participation. Column 2 estimates the effect using the second research design. The estimate in Column 2 is economically similar to the result in Column 1, although the statistical significance has decreased, even given the clustering change to meeting-level clusters to adjust for the decrease in degrees of freedom.

Columns 3 and 4 show the results using the DEFA measure. I find a negative correlation, suggesting around a 2.2% decrease in the total participation effect using Design 2 and 1% using Design 1. Results for both columns are robust to firm and industry clustering. Ideally, the DEFA

measure would be stronger than the regulation measure, because I have more confidence that the firms are actually using e-proxy. Because I know my measure of DEFA is underreporting e-proxy usage, it is hard to disentangle whether measurement error in DEFA or an omitted-variable bias in Design 1 is driving the discrepancy in the estimates. This is why including the Canadian data is valuable.

5.1.4 Canadian Setting

I estimate the effect of notice and access in Canada in Table 3 Panel B. Unlike in the United States, brokerages in Canada do not vote unvoted shares. My model for the effect of Canadian notice and access on participation, suppressing year, firm, and voting item subscripts, is:

$$Participation = \alpha + \beta_1 Notice\ and\ Access + Controls + Year_{FE} + Firm_{FE} + \varepsilon. \quad (3)$$

The dependent variable remains participation. The variables of interest all capture aspects of firms' disclosed use of the notice and access method of dissemination, allowed through the Canadian version of e-proxy, for at least some subsection of the investor base. Panel B reports the estimates of notice and access' effect. Column 1 estimates the effect of using notice and access for registered investors on participation. The effect is an insignificant decrease in participation of 2%. *Registered Investor Notice and Access* should have the smallest effect, because most registered investors are institutional, sophisticated, or highly invested in the company. Columns 2 and 3 show an estimated decrease in participation of around 12.6% for the effect of using notice and access for beneficial investors. In Columns 4 and 5, I estimate equation 3 using the comprehensive *Notice and Access* variable. The results indicate that using notice and access for the entire investor base would lead to a 14.8% decrease in participation. Average participation in my sample is 52%, and average participation is 55%, including firms that could not be matched with Compustat data.

5.2 Institutional Ownership Splits

To assess whether firms with higher retail ownership are driving the results, I partition the sample from Table 3 into high and low institutional investor groups. If little or no retail ownership is present, we should see little to no impact on participation from a dissemination shock that primarily affects retail shareholders. I proxy for a subset of firms, where p , the probability that the retail investor might be influential, is zero if institutional owners vote as a block. If the probability of institutional investors disagreeing is small, the average benefit should not be above cost. When

p is sufficiently small, a shock to C would have little effect on participation, because voting leads to almost no monetary benefit.

I define high institutional ownership as firms with more than 66% institutional ownership, because that percentage would be enough to ensure that institutional ownership alone could decide a vote if institutional owners had complete agreement. Although many companies determine vote outcomes using a simple majority, some have supermajority requirements for important votes. Using a 66% threshold helps identify firms that could decide the vote with only institutional voting, even in the case of a two-thirds supermajority requirement.

Table 4 shows the results of this split. Columns 1 and 2 estimate the effect of electronic dissemination on participation using the first empirical design and the regulation measurement with low and high institutional ownership, respectively. Columns 4 and 5 estimate the effect on participation with the DEFA14A measurement and with low and high institutional ownership, respectively. Columns 3 and 6 have the results from the chi-squared test of statistical difference between the coefficients for the high and low institutional ownership firms. The chi-squared test of statistical difference reports that firms with lower institutional ownership appear to have a statistically larger effect from a change in dissemination than firms with a supermajority of institutional ownership. I have also used the median institutional ownership to separate the groups. I find similar results with the regulation measure, although the DEFA measure loses statistical significance in the test between the two groups. I cannot do a split of the data using the second research design because of power issues.

5.3 Electronic Dissemination and Voting Results

Next, I estimate how change in participation affects voting outcomes. Because uninstructed votes are treated differently, my predictions vary, depending on whether the vote is classified as routine or non-routine. Therefore, I have partitioned my sample based on the classification of the vote. Table 5 shows the results for routine votes. Because I want to partition my sample based on whether the vote is routine and because Dodd-Frank has limited non-routine issues, I use the second empirical design, Design 2. The dependent variable for all columns is the percentage of the vote out of the total voting base that agrees with management's recommendation. Different meetings will have different voting bases, depending on the company charter. I use ISS data on both the voting base and management's recommendation. If management recommends voting against a shareholder proposal and the charter specifies the voting base is votes for, against, or abstaining, the dependent variable is the number of votes against the proposal over the total number

of votes for, against, and abstaining. The results are robust to using the outstanding votes as the base; however, the tabulated dependent variable closely captures the actual outcome of the vote and is the dependent variable management would care about. This leads to the following revised version of my Design 2 model:

$$\text{Management For} = \alpha + \beta_1 \text{Regulation} + \text{Controls} + \text{Year}_{FE} + \text{Firm}_{FE} + \epsilon. \quad (4)$$

Table 5 Panel A reports results for whether adoption is associated with the percentage of the vote agreeing with management's recommendation. With both my measures of e-proxy adoption, I see a statistically significant increase in the percentage of votes in agreement with management. I include a falsification test in the third and fourth columns, where I examine non-routine votes. For these votes, I do not find an increase in the percentage of the vote agreeing with management's recommendation. Recall that, with non-routine votes, the vote is not given to the brokers. This result can be interpreted as the brokers being more likely than the retail investors to vote in agreement with management but the retail investors not having statistically different voting patterns than institutional investors.

5.3.1 Director Elections

Historically, there has been interest in the literature in director elections (Cai et al. 2009). Most director votes pass. However, low support, even if enough to elect the director, can lead to director turnover, as can be seen from the "just say no" campaigns of the 2000s. While there has been little study of the determinants of voter participation, there has been more study of the determinants of the voting outcomes for director elections. Focusing on this one area where there has been research allows me to better control for potential endogeneity. Examining a single type of vote makes interpretation of the economic significance easier. I follow Cai et al. regarding the controls for my model. This leads to the following model, suppressing firm, year, and voting item subscripts:

$$\begin{aligned} \text{Management For} = & \alpha + \beta_1 \text{DEFA} + \beta_2 \log \text{assets} + \beta_3 \text{EBITDA} \\ & + \beta_4 \text{entrenchment index} + \beta_5 \text{abnormal CEO comp} \\ & + \beta_6 \text{Board size} + \beta_7 \text{Board holdings} \\ & + \beta_8 \text{Percent outside director} + \beta_9 \text{Majority voting} \end{aligned} \quad (5)$$

$$+Year_{FE} + Firm_{FE} + \epsilon.$$

The dependent variable is the percentage of the vote agreeing with management's recommendation. The variable of interest is the DEFA measure of e-proxy treatment. Following Cai et al., I use the Gompers et al. (2003) governance index and the Bebchuk et al. (2005) entrenchment index. Cai et al. used industry-level fixed effects. I exclude ISS recommendations because of data constraints. Cai et al. also included a litigation dummy, which I excluded because it was not significantly correlated with voting outcomes in their determinants test. I then compare the results with the estimated effect of e-proxy on voting outcomes using Design 2, which was originally created to estimate e-proxy's effect on participation for non-routine votes.

The results are reported in Panel B of Table 5. Results using Design 2 pre-2010, when director elections would be classified as routine, are reported in column 1 as a 1% coefficient, with marginal significance. Results using Design 2 post-2010, when director elections are classified as non-routine, are reported in column 3 as a 0.5% coefficient, with marginal significance. When using the Cai et al. design, there is a statistically significant negative correlation driven by the post-2010 sample. In column 6, I estimate equation 5 with firm rather than industry fixed effects, and DEFA becomes insignificant.

5.3.2 Canadian Notice and Access and Outcomes

I then examine the relationship between notice and access and voting outcomes in Canada. One of the major advantages of this setting is the clean and detailed data on dissemination methods. For that reason, I use multiple measures to capture the slight variation in dissemination methods that were observable in Canada but not in the United States.

Table 5 Panel C shows the relation between the percentage in agreement with management's recommendation and notice and access use. In Panel C, all regressions use a voting-item-description fixed effect and clustering. This design controls for the type of vote, such as whether it is a director election or a merger, but does not control for most of the variation between firms. The results indicate that companies with higher voting in agreement with management's recommendation are more likely to use notice and access. This correlation is driven by the firm's decision to use notice and access for registered investors. This is consistent with a positive correlation driven by a selection effect where managers that are more (less) confident that they will obtain a desired outcome are more (less) likely to use notice and access, because firms have more information about registered investors and more options for how to reach them.

Table 5 Panel D also examines how notice and access relates to the percentage in agreement with management’s recommendation, but this time with firm-level fixed effects and clustering. Firm fixed effects better control for the variation in the firm investor base that might affect the underlying contentiousness of an election and the resulting selection effect that is highlighted in Panel C. When additional controls are added to the standard Design 2 controls to address voting item contentiousness and try to mitigate selection effects, the sign of the relation changes from positive to negative. Columns 1 and 2 show the significance of this effect with firm and meeting levels of clustering, respectively. Column 3 shows that the result is weaker without the additional controls for the positive signed endogeneity. Column 4 shows that, unlike the selection effects highlighted in Panel C, this effect is not being driven by registered investors; rather, it is seen most strongly using a measure of notice and access that captures the degree to which the investor base is subject to notice and access. This shows that, while investor relations professionals are the most strategic about disseminating information to registered investors, because they have the most information on those investors, the negative relation between use of notice and access and the percentage of the vote in agreement with management’s recommendation is not being driven by registered investors exclusively. Also, whereas the relation is statistically significant, especially with meeting-level clustering, the magnitude of the effect is less than 1 percent, meaning that it would only have an effect on the outcome for votes determined by very slim margins.

5.4 Strategic Dissemination

Lastly, I test for correlation between the decision to use the notice method and management’s strategic reasons for wanting to increase participation. This test captures whether management appears to be investing more in dissemination during important or strategic elections. I restrict my sample to years after 2010, by which time all firms have had time to comply with e-proxy. Note that the post-2010 setting means that routine issues, for which the previous test showed brokers’ votes are more aligned with management than retail investors, are restricted to auditor ratification. Because there are two separate regimes, management’s incentives found from this test might not be generalizable to pre-2010, when compensation and director votes were considered routine, or the current day, if Dodd-Frank were to be reversed. My strategic dissemination model, suppressing year, firm, and voting item subscripts, is as follows.

$$Postal\ Mail = \beta_1 proxy\ contest + \beta_2 special + \beta_3 vote\ fail \quad (6)$$

$$+\beta_4 \text{Close Management votes} + \text{Size} + \text{Fixed effects} + \varepsilon.$$

The dependent variable captures the voluntary use of postal mail to disseminate the proxy materials. The dependent variable is an indicator for whether the company filed its electronic notice as a DEFA14A on the SEC website, where a 1 represents that the company has not filed a notice. I have four measures of whether management sees the vote as important. The first is whether the vote is a proxy contest. The second is whether a special election has been called to vote on important issues that cannot wait until the next annual shareholder meeting. The third measure is whether the vote fails. The fourth measure is for close votes in which management is recommending investors vote in favor of passage. I include year fixed effects to control for any time-varying factors that might affect either method of dissemination or my ability to detect dissemination through EDGAR filings. Because dissemination methods tend to endure from year to year, I estimate this test with firm and then industry fixed effects. The firm fixed effects control for time-invariant firm variation and thus include much of the variation driven by management disclosure time and investor-base characteristics. The main nonstrategic benefits of electronic dissemination relate to economies of scale, so firms with larger investor bases and more cost-efficient investor relations departments will be more likely to adopt. Therefore, I include measures that reflect the size of the firm and the investor base.

In Table 6, I find that there is a positive statistically significant correlation between postal dissemination and my measures of important votes. The first column shows the results with firm fixed effects. Three measures capturing important or strategic votes all have positive (negative) correlations with the measure of postal dissemination (electronic dissemination): proxy contest, special meeting, and close management votes. The second column also shows all four measures are at least weakly significant.

I estimate the same regression using the cleaner Canadian data. I have two specifications for the main treatment variable. In the first, the decision to use notice and access for any subsection of the investor base makes the variable equal to 1 to make the construct comparable to the U.S. setting. In the second, *Notice and Access* is on a scale from 0 to 2, where 0 represents no use of notice and access, 1 represents use for only a subgroup of the investor base, and 2 represents use for all investors. Because it looks at use of notice and access, the sign of all coefficients should be the opposite of the coefficients in the other regressions. Because matching with Compustat greatly restricts the sample, I report results both with and without Compustat controls. Results are reported

in columns 3–8. As with the U.S. sample, special elections have a positive correlation with use of physical dissemination. The choice of dissemination is also correlated with whether the vote failed.

Importantly, although this provides evidence that management is strategic with regard to dissemination, it does not imply anything about an agency conflict between investors and management. Particularly when considering the signaling theory of how electronic dissemination can affect participation, investors could be made better off if management disseminates using postal mail during only important elections.

5.5 Descriptive Information about Dissemination Switches and Stratification

To help interpret the results of Table 6, I document how many companies change dissemination methods. In Table 7, I show that within the United States, dissemination methods change in about 4.4% of shareholder elections and 166 companies switch methods within a single year. Most of the company switches are one-time switches to physical dissemination for a special meeting. This is consistent with my finding that only about 11% of special elections and proxy contests report using electronic dissemination, in comparison to 31% for the total population for the same period.

For Canadian firms, I find a similar amount of switching. Of the 4,026 firm-meeting observations I can successfully match with a previous firm-meeting observation, 200 observations have the company switching back to full access after having adopted notice and access. The use of notice and access seems similar across firms that I cannot match with a previous year, as 15.9% (1457 observations) of the total sample uses e-proxy and 15.8% (637 observations) of the matched sample. Of the 200 observations in which the firm switches dissemination, 135 have the company switch back for both registered and beneficial owners, 23 have the company switch registered investors back to full access, and 42 have the company switch only beneficial investors.

After implementation in the United States, there were reports from law firms of companies having different default forms of dissemination for different types of investors. NIRI surveyed investor relations departments in August of 2008 and reported that 41% took a stratified or hybrid approach. The stratification criteria were reported as being “fairly evenly distributed across those who differentiated based on number of shares held, by beneficial versus registered holders, and ‘other’ which included geographical delineations, 401K participants (who received full packages) and variants on the above” (NIRI, 2009). There were even some reports of the default form of dissemination being tied to whether an investor had voted in the last election.

In the U.S. setting, I cannot observe when stratification is occurring, nor can I gauge its extent. I assume any company disclosing that it used the notice method of dissemination used it for all investors who did not specifically request a physical copy. When the Canadians adopted their version of e-proxy in 2013, they required that companies disclose any stratification of the dissemination method. Although disclosure might moderate behavior, this can provide some estimate of how prevalent the practice might be in the United States. This is helpful because I could be considering firms treated that only are receiving a partial treatment.

Table 7, Panel B, shows the different criteria Canadian firms use to determine which of their investors receives which form of dissemination, given that the firm uses different dissemination methods for different investors. Only a small percentage of the Canadian sample uses stratification, and the majority that do so use the beneficial versus registered investor distinction to determine method of dissemination. Because I rely strongly on the use of broker non-votes to identify retail investors, a registered/beneficial stratification is least likely to bias my results. These findings are different from NIRI's survey. This could imply that NIRI's survey data were unrepresentative or that disclosure of stratification moderates the behavior. For example, a handful of Canadian companies disclosed that their stratification criterion was "to be determined" or "to follow" and then filed an amended form right before the election disclosing actual dissemination. Because U.S. filers would not need to amend financial documents over last minute dissemination changes, they might be more likely to actually engage in last minute changes, although that behavior would need to be significantly more common than what I am observing in Canada to bias results.

Table 7, Panel C, breaks down the percent of companies that use notice and access in the U.S. and Canada based on meeting type. The Canadian firms have lower adoption rates in part because the rule change happened more recently. For both countries, the rate of notice and access use for special meetings is much lower than the rate for annual meetings. The Canadians also have a lower rate for notice and access use for registered investors in proxy contests but not beneficial investors, although there are only a handful of proxy contests in my sample. These basic statistics are in agreement with my interpretation of Table 6.

5.6 Robustness and Limitations

A concern is that I might have over-controlled in an attempt to eliminate endogeneity and have thus sacrificed informative variation. Table 8 addresses this concern by showing how the results change if I remove some of my controls and reduce the number of fixed effects. For all

three columns, the effect of my treatment variable provides estimates that are similar to, or larger than, the estimates from my main research design (which was presented in Table 3).

Another potential concern is that I may have misclassified some of the DEFA14A changes. Although a change in a company's disclosure policy is still a potential concern, I hand-checked the classification of over 400 elections in which only one DEFA14A was filed but multiple elections happened in that year to guarantee that I was reporting the correct dissemination method with the right election. The inclusion of the Canadian results discussed above helps confirm that it is a dissemination change, rather than a disclosure change, driving the results.

Another potential limitation relates to outliers in the size of the firm or regarding election turnout. Reported regressions have truncated samples based on the size of the company, but all results are robust to removing that truncation. I have also removed elections with no reported participation, even if broker non-votes are reported; however, all results are robust to their inclusion.

I have performed several other untabulated robustness checks that I can provide upon request. Although I use the tightest fixed effects structure for my first empirical design, the results are robust to using firm*year fixed effects, rather than meeting fixed effects, and to the exclusion of the routine*year fixed effects in Table 3, Panel A. I also clean public float data from 2008 and control for the interaction between logged public float and non-routine votes with a 2006–2009 timeframe and find similar results.

6. Conclusion

This study shows that the means of information dissemination affects investor monitoring and corporate governance. It also provides evidence that management strategically invests more in dissemination for important votes, which shows that managers appreciate the role dissemination can play in corporate governance. My results confirm a decrease in participation occurred with the adoption of electronic dissemination in the United States and Canada. At the same time, the results may reassure policymakers because of the selection. The firms that chose to use e-proxy were large with high total participation and with routine and noncontroversial items on their ballots. In Canada, smaller firms instead chose to use notice and access; however, this practice was likewise most frequently used with noncontroversial items. Furthermore, if the signaling model explains this result, retail investors are being made better off by having the method of dissemination signal

whether an item is more important for them to cast an informed vote on (i.e., physical mail dissemination) or relatively less important (e-proxy dissemination).

By exploring retail investor participation, this study explores the costs and benefits of different dissemination methods. The proxy statement setting has useful characteristics for measuring distribution effects, including fewer substitutes for the underlying information than, for example, earnings. Thus, a clear and regulated notification of when the proxy statement information is posted and how to find it is a discrete shock to search costs. There should be no anticipatory effect besides possible early adoption. Anticipation of a new information channel does not change search costs, and therefore should not affect participation before the channel is adopted. Finally, we can observe concrete and measurable decisions in the near aftermath.

American policymakers have frequently stated interest in research related to electronic proxy dissemination specifically and around shareholder participation more generally. Moreover, public SEC debates, such as this one, affect policy positions of other countries too. E-proxy has made it easier to adopt the notice and access method than is true in many international systems. Members of the European Union could use electronic dissemination, but companies were required to obtain written consent before sending information electronically (Zetzsche, 2007).¹⁴ Surveys of Japanese companies found the burdensome consent requirements explained why less than 3% of companies had adopted the Japanese version of e-proxy (Tanaka, 2015). Although making the system more permissive could lead to clear efficiency gains, the negative reaction from firms in the United States in the early years of adoption raised concerns. Nowhere was that concern clearer than with the Canadian Securities Administration.

Part of what makes my study useful to regulators is the lack of research on retail investor participation. Corporate finance has a large literature on the effects of proxy voting and how it shifts the balance of power in agency conflicts with asymmetric information. Theories on the effects of corporate proposals on the value of the firm implicitly make assumptions regarding whether uninformed control creates or destroys value. Recent studies show proxy voting can lead to positive monitoring effects. Ertimur et al. (2010) find poorly performing managers were more likely to have their compensation package rejected in say-on-pay votes. Bach and Metzger (2015) similarly show that managers who do not implement approved corporate governance proposals are dismissed. Cunat et al. (2012, 2013) find positive valuation effects from approved shareholder

¹⁴ Article 17 (3) of the Transparency Directive

proposals. While there is a large literature on voting outcomes, the literature has rarely mentioned participation.

Over time, ownership has become more concentrated, with many individual investors investing through institutions. Prior research examines the role of institutional investors in corporate governance and shareholder outcomes. Appel et al. (2016) find an increase in passive shareholders, due to a firm being placed into the Russell 2000 index, leads to more involvement by activist investors. However, these studies do not look directly at retail investor participation in shareholder meetings. Thus, they cannot determine whether passive institutional ownership increases corporate governance because they are superior to brokers, who do not have an enforceable fiduciary duty to vote in the best interest of their clients; retail investors, who are unsophisticated; or both. Activist investors had been the loudest group pushing for broker non-vote reform. I find that votes in agreement with management increases when participation decreases before the broker vote reform and decreases with participation decreases after. My findings suggest a hierarchy of management to activist friendliness, where brokers are the friendliest to management, followed by retail investors, and then passive institutions.

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Appendix A

Exhibit 1: U.S. Adoption

In the U.S., companies had to choose between two new dissemination methods: full access and notice. Large accelerated filers were required to make the switch on January 1, 2008, and all public companies were required to adopt by January 1, 2009. Companies could freely switch back and forth between full access and notice. In comparison, Canada adoption started in 2013. All tests examine either U.S. or Canadian companies, but never are both examined at once.

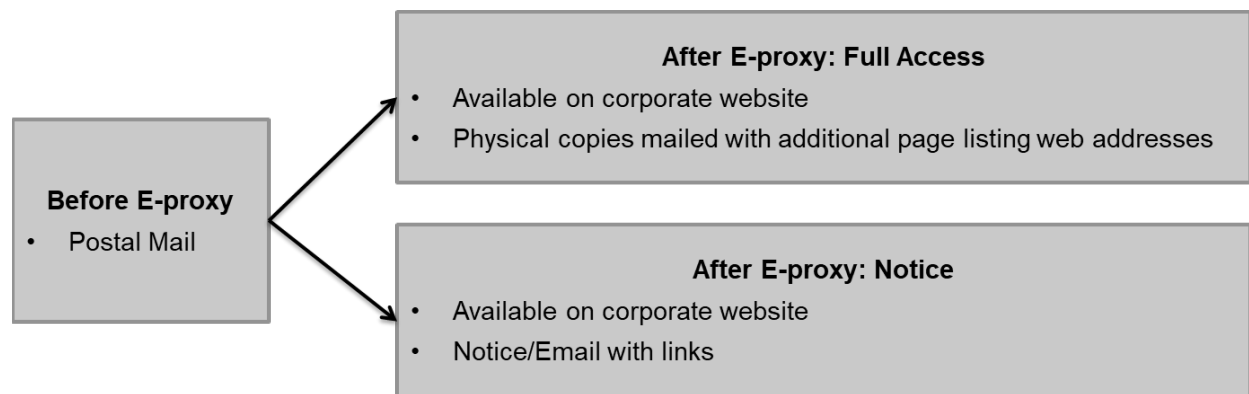


Exhibit 2: Notice

Below is an example of a notice and access form from Computershare. Alcoa filed this notice as a DEFA14A on March 17, 2017. Two major companies are in charge of proxy dissemination: Computershare and Broadridge.



Important Notice Regarding the Availability of Proxy Materials for the Alcoa Corporation Annual Meeting of Stockholders to be Held on May 10, 2017

You are receiving this notice that the proxy materials for the Alcoa Corporation 2017 Annual Meeting of Stockholders are available on the Internet. Follow the instructions below to view the materials and vote online or request a paper or email copy. Information about the items to be voted on and the location of the annual meeting are provided on the reverse side of this notice.

This communication presents only an overview of the more complete proxy materials that are available to you on the Internet or by mail. We encourage you to access and review all of the important information contained in the proxy materials before voting.

The 2017 Proxy Statement and 2016 Annual Report (including Form 10-K) are available at:

www.ViewMaterial.com/AA



Easy Online Access – A Convenient Way to View Proxy Materials and Vote

When you go online to view materials, you can also vote your shares.

Step 1: Go to **www.ViewMaterial.com/AA** and view the proxy materials.

Step 2: Click the icon to vote your shares.

Step 3: Enter the 11 digit control number (located by the arrow in the box below).

Step 4: Follow the simple instructions to record your vote.

You are able to vote online until 6:00 a.m. (EDT) on May 10, 2017.

When you go online, you can also help the environment by consenting to receive electronic delivery of future materials.



Obtaining a Copy of the Proxy Materials – If you want to receive a paper or email copy of the proxy materials, you must request one. There is no charge to you for requesting a copy. Please make your request for a copy as instructed on the reverse side on or before April 26, 2017 to facilitate timely delivery.



Exhibit 3: Ownership Structure

This figure shows how proxy information flows through the ownership structure. Information flows from the firm through any relevant intermediaries to the investors. The boxes with the blue border (gray if printed black and white) show the groups that will attend the shareholder meetings. This information matters because the broker has the right to make discretionary votes for beneficially owned shares for routine issues when voting instructions have not been received after legal dissemination of proxy materials. I use the difference between participation in votes in which brokers have discretionary voting rights and those in which they do not to estimate the level of retail investor nonparticipation.

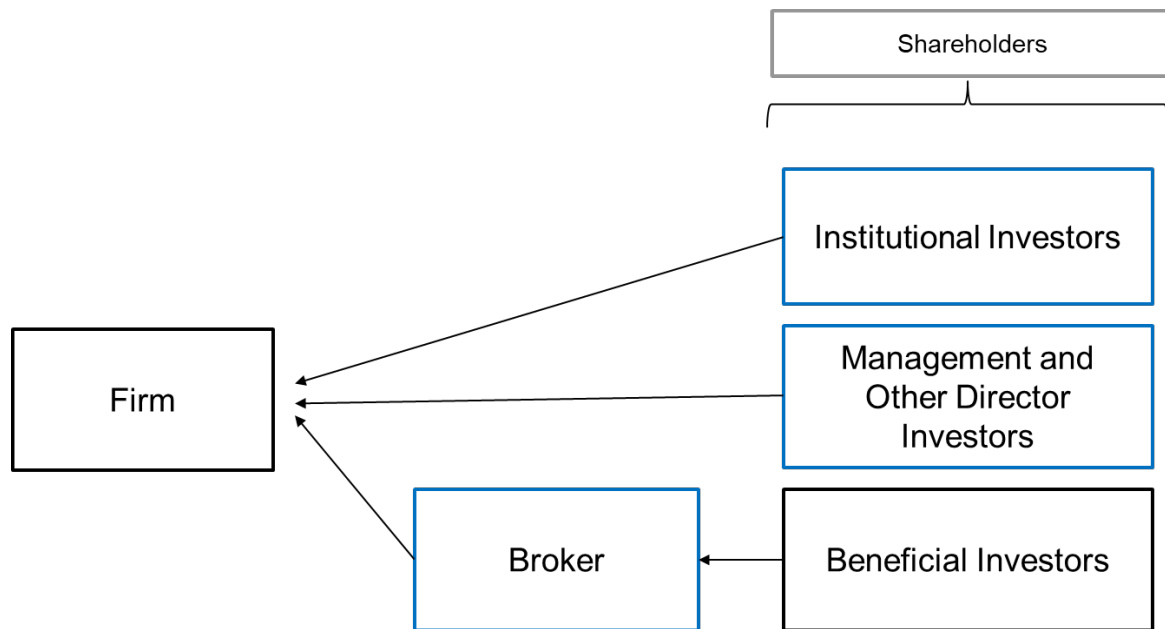


Exhibit 4: Routine versus Non-routine

Participation can only be accurately measured on non-routine proposals. For routine proposals, brokers can make discretionary votes on shares that are uninstructed 10 days before the shareholder meeting. Thus, the changing definition of non-routine proposals throughout the sample explains the composition of votes in my sample. Changes in the definition are caused by implementation of Dodd-Frank.

Time Period	Routine Proposals	Non-routine Proposals
Pre-Jan. 1, 2010	<ul style="list-style-type: none"> • Auditor ratification • Non-contested election of directors • Matters relating to executive compensation • De-stagger the board of directors • Implement majority voting in director elections • Supermajority requirements • Provide for the use of written consent • Provide rights to call a special meeting • Opt out of certain types of takeover provisions 	<ul style="list-style-type: none"> • Is not submitted to shareholders by means of a proxy statement comparable to that specified in Schedule 14-A of the SEC • Proxy contests • Mergers and consolidations • Shareholder appraisal rights • Authorizations of property mortgages • Authorizations or increased authorizations of company indebtedness • Authorizations or increased authorizations of classes of preferred stock • Alterations of the terms or conditions of existing stock or indebtedness • Modifications of preemptive rights • Changes to stockholder meeting quorum requirements • Alterations of voting provisions of stock • Authorizations or issuances of stock or stock options to directors, officers, or employees in amounts that exceed 5% of outstanding common shares • Authorizations or increased authorizations of profit sharing or special remuneration plans that exceed 10% of average annual income before taxes • Material changes in a company's lines of businesses • Acquisitions of property, assets, or a company, where the fair market value exceeds 20% of the firm's market value • Sales of property or earning power approximating 20% or more of those existing before the transaction • Authorizations of transactions not in the ordinary course of business in which officers, directors, or substantial security holders have a direct or indirect interest • Reductions in earned surpluses of 51% or more, or red

Jan. 1, 2010- July 21, 2010	<ul style="list-style-type: none"> • Auditor ratification • Matters relating to executive compensation • De-stagger the board of directors • Implement majority voting in director elections • Supermajority requirements • Provide for the use of written consent • Provide rights to call a special meeting • Opt out of certain types of takeover provisions 	<ul style="list-style-type: none"> • All elections of directors • See above
July 21, 2010- Jan. 2012	<ul style="list-style-type: none"> • Auditor ratification • De-stagger the board of directors • Implement majority voting in director elections • Supermajority requirements • Provide for the use of written consent • Provide rights to call a special meeting • Opt out of certain types of takeover provisions 	<ul style="list-style-type: none"> • Election of directors • Matters relating to executive compensation • See above
Jan. 2012- Present	<ul style="list-style-type: none"> • Auditor ratification 	<ul style="list-style-type: none"> • Election of directors • Matters relating to executive compensation • De-stagger the board of directors • Implement majority voting in director elections • Eliminate supermajority requirements • Provide for the use of written consent • Provide rights to call a special meeting • Opt out of certain types of takeover provisions • See above

Exhibit 5:

This table shows Broadridge’s disclosures to the SEC regarding investor participation. They appear to show investor participation decreases, particularly for smaller investors. Outside of my paper, this table is the only other empirical look at the effect of this regulation, and it reports only total numbers, without any empirical design or controls for other factors.

**But the Savings Have Come at the Expense of “Main Street” Participation
“Matched” Account Participation: Before and After Notice & Access**

Participation has decreased among the same account holders, especially among smaller investors.

Size of Account (share range)	Number of Accounts in Range	# that Voted Before N&A	# that Voted After N&A	Percent Change +/-
< 1000	5,982,606	868,027	343,941	(61)*
1,000 - 4,999	648,656	143,527	55,402	(61)
5,000 - 9,999	61,266	14,685	7,244	(51)
10,000 - 49,999	40,862	10,301	5,605	(46)
> 50,000	7,657	2,324	1,626	(30)
Total	6,741,047	1,038,864	413,818	(60)

“Matched” accounts denotes the same account. Comparison of voting at the same companies -- with N&A (current meeting) to without N&A (prior meeting, pre-N&A rules). Based on all 164 corporate shareholder meetings from July 1, 2007 - April 30, 2008.

* Includes mailings of a 2nd Notice (with a ballot) and full packages as a result of ‘consents’ and issuer stratification.

4



Number of Notice Recipients	Number of Notice Recipients that Visited the Specified URL and Selected “Read Materials”	%	Number of Notice Recipients that Visited the Specified URL and Selected “Vote”	%
812,772	2,593	0.47	21,115	3.25

Notes

- Includes all 40 registrants that used Notice & Access (meetings from 6/1/08 to 9/26/08).
- A total of 812,772 account holders received a Notice by mail.
- Going to the URL and clicking on the “Vote” option opens a voting ballot and provides a link to view detailed information.
- The “Read Materials” option presents the materials and includes the option to vote.

Investors who receive proxy information (mail or email) are more likely to use the Internet to vote than are investors who receive a Notice only.

Voting Methods Receipt of Info	Total Items Sent (#)	Voting by Paper Ballot (#)	Voting by Paper Ballot (%)	Voting by Internet Ballot (#)	Voting by Internet Ballot (%)
Full Set Sent by Mail	110,118	34,787	31.8	26,626	23.0
Notice Sent by Mail	812,772	1,677	0.4	21,115	3.3
Email Including Links	328,651	65	0.1	37,351	12.5

Notes

- All 40 Notice & Access corporate issuers with meetings 6/1/08 to 9/26/08.
- Distributions ranged from 1,226 to 966,578 accounts/issuer.
- Total of 1,875,021 account holders. ProxyEdge (624,080 accounts) is a proprietary platform for institutional investors and financial advisors, and it is excluded.
- Response rates represent an average of averages, i.e., on average for a given issuer. Differences due to rounding.
- "Full Set by Mail" includes prior consents and issuer stratification of mailings.
- "Email" delivery provides essentially the same experience for an account holder, with or without Notice & Access, and is based on prior consent.
- Prior "Consents" on file for 2.5 million account holders. Processing of prior consents and issuer stratification (e.g., full package to larger accounts) resulted in 11% of items mailed by full package (7/1/07 to 6/30/08).

7



Exhibit 7: Standard Canadian Disclosure in Proxy Information Circular

This shows a standard disclosure in a proxy information circular, the Canadian equivalent of the DEF14A proxy document, explaining notice and access.

NOTICE AND ACCESS

In accordance with the notice-and-access rules adopted by the Ontario Securities Commission under NI 54-101, the Company has sent its proxy-related materials directly to registered holders and non-objecting beneficial owners using notice-and-access. Therefore, although shareholders still receive a proxy or Voting Instruction Form (as applicable) in paper copy, this Information Circular, annual consolidated financial statements and related MD&A are not physically delivered. Instead, shareholders may access these materials on the Company's website at [http://\[REDACTED\]2](http://[REDACTED]2) or under the Company's profile page on SEDAR at www.sedar.com

Registered holders or beneficial owners may request paper copies of the Meeting materials be sent to them by postal delivery at no cost to them. Requests may be made up to one year from the date the Meeting materials are posted on the Company's website. In order to receive a paper copy of the Meeting materials or if you have questions concerning Notice-and-Access, please call toll free at [REDACTED]. **Requests for paper materials should be received by Monday, April [REDACTED], 2018 in order to receive the Meeting materials in advance of the Meeting.**

Appendix B

Assume two types of votes exist: important and unimportant. The voting benefits associated with these two types are $B \in \{B_H, B_L\}$ with $B_H > B_L$. Previously, B was unobservable to investors until they incurred C but was privately known by the management, who, before e-proxy, could not credibly communicate B before the investors incurred C . Investors decide to participate based on a pooled mean benefit. B_H and B_L occur with probability q and $1-q$, respectively. $PB_H + D > C$, but $PB_L + D < C$. If $P(qB_H + (1 - q)B_L) > C$, being able to distinguish between B_H and B_L will lead to an average decrease in participation.

The Spence model has one universal benefit function, wage, and two cost functions for education, depending on the type of employee. Single crossing of the cost functions means it is optimal for the two different types of employees, with their different cost functions, to choose different education levels, given a single benefit for a given level of education. My model contains only one cost function for all types, but the two types have different benefit functions. Voters condition participation on the dissemination method if managers with two different types of proposals, which differ in their benefits from participation, choose different means of dissemination. This is equivalent to investors setting their participation function based on the means of dissemination, because the net cost of the means of dissemination for an unimportant proposal differs from that for an important proposal.

Appendix C

Variable	Definition
Participation	The percentage of votes (for, against, abstaining, and withholding) out of outstanding shares
Management For	The percentage of the vote in agreement with management recommendations out of voting base as reported in ISS
Non-routine	Votes where there were non-votes because brokers do not have discretionary voting rights when beneficial shareholders do not participate
DEFA	Indicator variable equal to 1 if I observe a DEFA14A notice, which means the firm is using the notice and access method of dissemination
Postal Mail	Indicator variable equal to 1 for U.S. observations if I do not observe a DEFA14A notice, which means the firm is using the full access method of dissemination, and equal to 1 for Canadian observations if firm reports to use postal dissemination/full access for all investors
DEFA*non-routine	The interaction between DEFA and non-routine, which is similarly an indicator variable
Regulation	Large accelerated filers interacted with 2008 and all firms starting with 2009
Regulation*non-routine	The interaction between regulation and non-routine
Notice and Access	Variable equal to 2 if the firm disclosed that it was using notice and access, the Canadian version of e-proxy, for all investors, to 1 for some subset of investors, and to 0 if it used full access.
Beneficial Investor Notice and Access	Indicator variable equal to 1 if firm disclosed that notice and access would be used for beneficial investors
Registered Investor Notice and Access	Indicator variable equal to 1 if firm disclosed that notice and access would be used for registered investors
Only Notice and Access	Indicator variable equal to 1 if firm disclosed that notice and access would be used for either beneficial or registered investors
Supermajority Institutional Ownership	Firms with more than 66% ownership by institutional owners as defined by Thomson Reuters's 13F Institutional Ownership data
Lower Institutional Ownership	Firms with less than 66% ownership by institutional owners as defined by Thomson Reuters's 13F Institutional Ownership data
Ln(Total assets)	Natural logarithm of total assets from Compustat
Ln(Acquisition)	Natural logarithm of acquisition data from Compustat
Ln(Outstanding)	Natural logarithm of outstanding shares from ISS
Delta EPS	The change in dilutive earnings per share scaled by total assets between time t and t-1, winsorized at the 1% and 99% levels
Ln(Market value)	Natural logarithm of the market value at fiscal year-end as reported by Compustat
Annual meeting	Indicator variable equal to 1 if the vote was part of an annual meeting and 0 otherwise
Special meeting	Indicator variable equal to 1 if the vote was part of a special meeting and 0 otherwise

Proxy contest	Indicator variable equal to 1 if the vote was part of a proxy contest and 0 otherwise
Director Election	Indicator variable equal to 1 if the vote was for the election of a director and 0 otherwise
Auditor Ratification	Indicator variable equal to 1 if the vote was for the ratification of the external auditor and 0 otherwise
Elect Director after 2010	Indicator variable for if the vote for the election of a director after 2010 and 0 otherwise
Amend compensation	Indicator variable equal to 1 if the vote was to amend an omnibus stock or option plan and 0 otherwise
Approve compensation	Indicator variable for whether the vote was to approve compensation plan otherwise equal to 0
Close management vote	Indicator variable for whether the vote has less than 70% support and management recommended support
Ln(Total Assets)*non-routine	Ln(Total Assets) interacted with non-routine
Ln(Market value)*non-routine	Ln(Market value) interacted with non-routine
Delta EPS*non-routine	Delta EPS interacted with non-routine
Annual*non-routine	Annual interacted with non-routine
Merger	Indicator variable equal to 1 if the vote was related to a merger or acquisition
Vote Fail	Indicator variable equal to 1 if the vote failed to pass and 0 otherwise
Sponsor	Indicator variable equal to 1 if management sponsored the vote
EBITDA	From Compustat winsorized at the 1% and 99% levels
Entrenchment Index	As defined in Bebchuk et al. (2005) data either from Bebchuk's website or ISS Governance data
Abnormal CEO Compensation	The residual from a simple compensation regression of all Execucomp firms during my sample period
Board size	The number of directors ISS Director data has listed in a firm year
Board Holdings	The cumulative percentage control of voting power held by the board in a year from ISS Director Data
Percent Independent	The fraction of directors in a firm year listed in ISS Director data as independent
Majority voting	Indicator variable equal to 1 if ISS voting requirement variable is greater than 0.01
Year	Calendar year of meeting date
Industry	Four-digit SIC code

Table 1: Summary Statistics

Panel A: Full sample

Variable	N	Mean	Min	Max	Variance
Participation	158832	0.79	<.01	1.56	0.03
DEFA*non-routine	158832	0.10	0.00	1.00	0.09
Regulation*non-routine	158832	0.52	0.00	1.00	0.25
Ln(Total Assets)*non-routine	158832	3.74	-1.74	14.70	15.02
Ln(Market Value)*non-routine	158832	3.73	-1.61	13.35	14.82
Delta EPS*non-routine	158832	0.04	-9.27	7.69	1.99
Auditor Ratification	158832	0.12	0.00	1.00	0.11
Annual*non-routine	158832	0.53	0.00	1.00	0.25
Director Election Post 2010	158832	0.46	0.00	1.00	0.25
Amend Compensation	158832	0.03	0.00	1.00	0.03
How close vote result	158832	0.93	0.00	1.00	0.02
Vote failed	158832	0.02	0.00	1.00	0.02
Approve Compensation	158832	0.01	0.00	1.00	0.01
Merger	158832	<.01	0.00	1.00	<.01
Director Election	158832	0.71	0.00	1.00	0.21

Panel B: Routine for 2005–2009

Variable	N	Mean	Min	Max	Variance
Management For	44126	0.94	0.00	1.00	0.011
Participation	44126	0.88	<0.01	1.00	0.011
Regulation	44126	0.37	0.00	1.00	0.234
DEFA	44126	0.04	0.00	1.00	0.036
Ln(Outstanding)	44126	18.11	7.85	23.23	1.814
Ln(Total assets)	44126	7.23	1.88	14.45	3.222
Delta EPS	44126	-0.13	-9.27	7.69	4.589
Special meeting	44126	0.01	0	1	0.01
Ln(Acquisition)	44126	0.02	-5.52	8.18	0.108

Panel C: Non-routine for 2005–2009

Variable	N	Mean	Min	Max	Variance
Management For Participation	3255	0.78	0.03	1.00	0.04
Regulation	3255	0.77	0.11	1.00	0.01
DEFA	3255	0.42	0.00	1.00	0.24
Ln(Outstanding)	3255	0.04	0.00	1.00	0.04
Ln(Total assets)	3255	18.94	14.97	23.09	2.89
Delta EPS	3255	8.31	2.34	14.45	4.74
Special meeting	3255	-0.11	-9.27	7.69	6.21
Ln(Acquisition)	3255	0.01	0.00	1.00	0.01
	3255	0.01	-5.52	8.18	0.19

Panel D: 2010–2015

Variable	N	Mean	Min	Max	Variance
Postal Mail	147225	0.69	0.00	1.00	0.21
Special election	147225	0.01	0.00	1.00	0.01
Proxy contest	147225	0.01	0.00	1.00	0.01
Vote fail	147225	0.02	0.00	1.00	0.02
Close management vote	147225	0.03	0.00	1.00	0.03
Ln(Total Assets)	147225	7.08	-1.78	14.76	5.54
Delta EPS	147225	-0.01	-9.27	7.69	2.38
Ln(Outstanding)	147225	17.85	11.51	24.30	2.34
Ln(Market value)	147225	6.77	-5.17	13.35	5.27

Panel E: Director Elections

Variable	N	Mean	Min	Max	Variance
Management For	37051	0.96	0.20	1	0.00
DEFA	37051	0.38	0	1	0.24
Ln(Total Asset)	37051	8.63	4.05	14.76	3.00
EBITDA	37051	1870.25	-73.43	11967	8793397
E Index	37051	4.08	2	6	0.66
Abnormal CEO Comp.	37051	1660.17	-4877	25838	35100000
Majority voting	37051	0.55	0	1	0.25
Board size	37051	10.16	3	34	5.91
Percent Independent	37051	8.31	0	27	5.37
Board Holdings	37051	6.09	0	194.23	275.83

Panel F: Canadian Table

Variable	N	Mean	Min	Max	Variance
Participation	1279	0.52	<.01	1	0.04
Routine	1279	0.95	0	1	0.05
Beneficial Investor Notice and Access	1279	0.28	0	1	0.20
Notice and Access	1279	0.50	0	2	0.69
Special election	1279	0.00	0	1	0.00
Year	1279	2015	2014	2016	0.69
Ln(Total Assets)	1279	5.77	0.90	9.71	3.92
Delta EPS	1279	-0.15	-5.48	3.44	1.06
Ln(Outstanding Shares)	1279	18.46	15.93	21.90	1.35
Ln(Market Value)	1279	5.28	0.40	9.70	3.76
Director elections	1279	0.79	0	1	0.17
Merger	1279	0.00	0	1	<.01

Panel G: Canadian Table 6

Variable	N	Mean	Min	Max	Variance
Postal Mail	5433	0.74	0	1	0.19
Notice and Access	5433	0.44	0	2	0.60
Special election	5433	0.01	0	1	0.01
Proxy contest	5433	0.00	0	1	0.00
Vote fail	5433	0.01	0	1	0.01
Close management vote	5433	0.02	0	1	0.02
Year	5433	2015	2014	2016	0.67
Ln(Outstanding)	5433	17.76	-3.51	21.90	2.87
Ln(Total Assets)	5433	5.96	-3.86	11.26	4.59
Delta EPS	5433	-0.26	-76.65	47.55	10.81
Ln(Market value)	5433	5.57	-1.10	11.08	4.53

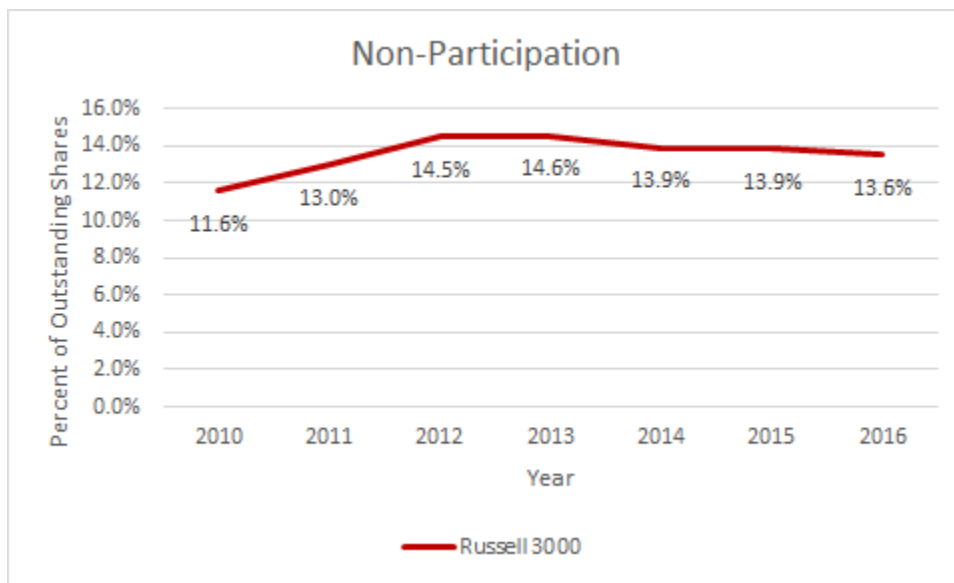
Table 2: Total Non-Participation

Panel A: Full Sample

(1)	
<i>Participation as Dependent Variable</i>	
<i>Non-routine</i>	-0.135*** (-83.07)
Meeting Fixed Effects	Yes
Observations	251,372
R-squared	0.882

Notes: This regression estimates total beneficial shareholder non-participation in shareholder meetings by measuring the average difference between routine and non-routine votes within the same shareholder meeting. The amount of non-participation equals the decrease in participation during a non-routine vote. Non-routine is an indicator variable for whether broker non-votes were recorded for the vote. The coefficient estimate from this regression is used to interpret the results from Table 3. The regression includes the entire sample from 2005–2015. Inference is based on the t-statistic, reported in parentheses. Statistical significance level below 1%, 5%, and 10% is denoted by ***, **, and * respectively.

Panel B: Non-Participation for Russell 3000



Notes: This graph shows the average broker non-votes divided by outstanding shares for non-routine votes during a calendar year, which provides consistent estimates with the yearly regressions from Panel A. The amount of non-participation equals the decrease in participation during a non-routine vote. The sample shows the entire ISS Russell 3000 sample for the years 2010–2016.

Panel C: Retail Participation Partitioned by Total Assets of the Company

Quintiles of Total Assets	Mean (Total Participation)	Mean (Individual Participation)	Mean (Institutional Ownership)	Mean (Total Assets in Millions)	Observations
1	60.7%	49.8%	39.0%	\$139.33	20,852
2	74.9%	33.8%	58.7%	\$783.28	20,960
3	77.8%	32.5%	67.9%	\$2,417.51	20,954
4	77.5%	55.0%	69.3%	\$7,028.41	20,906
5	74.5%	59.7%	66.0%	\$104,451.87	20,946

Notes: This table presents the total participation rate and total individual participation (retail and inside investors) partitioned into five quintiles for the 2011–2015 sample matched with Thomson Reuters institutional ownership data. Individual participation is calculated as $1 - \left(\frac{\text{Broker non-votes}}{(1 - \text{institutional ownership})} \right)$ for non-routine votes in the sample. The mean total assets in millions and the number of observations (number of ballot items) are also provided. Because observations where Thomson Reuters had reported more than 100 percent ownership were excluded, there is a slight imbalance to the number of observations within the quintiles.

Panel D: Retail Participation Partitioned by Number of Short Positions

Quintiles of Short Positions	Mean (Total Participation)	Mean (Individual Participation)	Mean (Institutional Ownership)	Mean (Short Positions)	Observations
1	66.3%	62.2%	38.8%	76,586	20,393
2	75.9%	63.8%	61.3%	783,792	20,391
3	77.6%	51.6%	69.8%	2,324,115	20,397
4	76.1%	33.9%	69.6%	5,302,901	20,385
5	71.8%	16.0%	67.6%	21,966,797	20,391

Notes: This table presents the total participation rate and total individual participation (retail and inside investors) sample matched with Thomson Reuters institutional ownership data partitioned into five quintiles by Compustat Short position data for the 2011–2015. Individual participation is calculated as $1 - \left(\frac{\text{Broker non-votes}}{(1 - \text{institutional ownership})} \right)$ for non-routine votes in the sample. The mean short positions and the number of observations (number of ballot items) are also provided. The short positions are taken from reported short positions at the end of the month prior to the meeting date. Because observations where Thomson Reuters had reported more than 100 percent ownership were excluded, there is a slight imbalance to the number of observations within the quintiles.

Table 3: Effect on Participation

Panel A: U.S. Setting

<i>Participation as Dependent Variable</i>	Measure of Treatment 1		Measure of Treatment 2	
	Design 1	Design 2	Design 1	Design 2
Treatment:				
<i>Regulation*non-routine</i>	-0.022** (-2.24)			
<i>Regulation</i>		-0.021* (-1.85)		
<i>DEFA*non-routine</i>			-0.010*** (-3.03)	
<i>DEFA</i>				-0.021** (-2.03)
Control Variables:				
<i>Ln(Market Value)*non-routine</i>	0.014*** (7.78)		0.014*** (7.90)	
<i>Ln(Total Assets)*non-routine</i>	0.011*** (5.98)		0.011*** (5.95)	
<i>Delta EPS*non-routine</i>	-0.001** (-1.98)		-0.001** (-1.99)	
<i>Annual*non-routine</i>	0.001 (0.03)		0.001 (0.05)	
<i>How close vote result</i>	-0.004 (-0.49)		-0.004 (-0.47)	
<i>Vote failed</i>	-0.062*** (-8.30)		-0.062*** (-8.34)	
<i>Merger</i>	0.002 (0.21)		0.002 (0.20)	
<i>Auditor Ratification Vote</i>	0.086*** (30.68)		0.086*** (30.67)	
<i>Director Election</i>	0.075*** (28.22)	0.097*** (8.70)	0.075*** (28.21)	0.096*** (8.61)
<i>Director Election Post 2010</i>	-0.097*** (-33.97)		-0.097*** (-33.96)	
<i>Amend Compensation</i>	-0.015*** (-9.87)		-0.015*** (-9.76)	
<i>Approve Compensation</i>	-0.017*** (-8.26)		-0.017*** (-8.24)	
<i>Ln(Total Assets)</i>		0.015 (1.50)		0.015 (1.42)
<i>Delta EPS</i>		0.001 (0.91)		0.001 (0.91)
<i>Ln(Outstanding shares)</i>		-0.049*** (-2.61)		-0.049*** (-2.59)
<i>Special meeting</i>		-0.035 (-0.60)		-0.035 (-0.60)
Fixed Effects:				
<i>Meeting</i>	Yes	No	Yes	No
<i>Year*non-routine</i>	Yes	No	Yes	No
<i>Firm</i>	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes
Observations	158,832	3,813	158,832	3,813
R-squared	0.901	0.801	0.901	0.801

Notes: This table shows the effect of the SEC's e-proxy regulation on participation in shareholder elections, using the regulation cutoff. The dependent variable is *Participation*, which is measured as the number of votes voted for + voted against + voted withheld + voted abstain. I have two research designs and two measures of treatment. *DEFA* refers to whether a notice was published on EDGAR as a DEFA14A form. *Regulation* refers to whether the firm was subject to the e-proxy regulation. The partitioned difference-in-differences restricts the sample to only non-routine votes and only between years 2005 and 2009, before the definition of non-routine changed. *Delta EPS* is winsorized at 1% and 99%. Standard errors are clustered by firm for Design 1 and meeting for Design 2. Inferences are based on t-statistics, reported in parentheses. Statistical significance levels below 1%, 5%, and 10% are denoted by ***, **, and *, respectively.

Panel B: Canadian Setting

	(1)	(2)	(3)	(4)	(5)
<i>Participation as Dependent Variable</i>					
Treatment Variables:					
<i>Registered Investor Notice and Access</i>	-0.027 (-0.85)				
<i>Beneficial Investor Notice and Access</i>		-0.130*** (-3.19)	-0.126** (-2.57)		
<i>Notice and Access</i>				-0.075** (-2.16)	-0.074* (-1.73)
Controls:					
<i>Special Election</i>	-0.056*** (-17.72)	-0.056*** (-17.72)	-0.073*** (-16.36)	-0.056*** (-17.72)	-0.074*** (-16.40)
<i>Year</i>	0.009 (0.58)	0.015 (1.05)	0.024 (1.21)	0.014 (0.94)	0.023 (1.12)
<i>Ln(Total Assets)</i>	0.103** (2.09)	0.125*** (3.17)	0.158*** (3.25)	0.123*** (2.82)	0.157*** (2.97)
<i>Delta EPS</i>	0.022** (2.09)	0.013* (1.68)	0.016* (1.91)	0.016* (1.92)	0.019** (2.05)
<i>Ln(Market value)</i>	0.018 (0.78)	0.011 (0.58)	0.002 (0.09)	0.015 (0.72)	0.006 (0.21)
<i>Director Election</i>			-0.021*** (-2.84)		-0.021*** (-2.84)
<i>Merger</i>			-0.021*** (-2.84)		-0.021*** (-2.84)
<i>Ln(Outstanding Shares)</i>			-0.285*** (-3.98)		-0.290*** (-4.12)
<i>Routine</i>	0.008 (0.15)	0.015 (0.27)	0.015 (0.22)	0.015 (0.26)	0.015 (0.22)
Fixed Effect Clustering	Firm Meeting	Firm Meeting	Firm Firm	Firm Meeting	Firm Firm
Observations	1,279	1,279	1,279	1,279	1,279
R-squared	0.907	0.912	0.919	0.910	0.917

Notes: This table shows the effect that Canada's notice and access regulation on participation in shareholder elections, using the regulation cutoff. The dependent variable is *Participation*, which is measured as the number of votes voted for + voted against + voted abstain. The treatment variables all measure whether the firm chose to use notice and access. *Delta EPS* is winsorized at 1% and 99%. Standard errors are clustered by meeting or firm. Inferences are based on t-statistics, reported in parentheses. Statistical significance levels below 1%, 5%, and 10% are denoted by ***, **, and *, respectively.

Table 4: Institutional Ownership

Participation as Dependent Variable	(1) Lower Institutional Ownership	(2) Supermajority Institutional Ownership	(3) Difference χ^2 p-value	(4) Lower Institutional Ownership	(5) Supermajority Institutional Ownership	(6) Difference χ^2 p-value
Treatment:						
<i>Regulation*non-routine</i>	-0.043** (-2.33)	-0.012 (-1.05)	5.75** (0.017)			
<i>DEFA*non-routine</i>				-0.020*** (-2.80)	-0.012*** (-3.53)	4.32** (0.038)
Control Variables:						
<i>AT*non-routine</i>	0.020*** (7.07)	0.004** (2.22)		0.020*** (7.05)	0.004** (2.22)	
<i>Market value*non-routine</i>	0.004 (1.54)	0.014*** (7.34)		0.005* (1.68)	0.015*** (7.51)	
<i>EPS*non-routine</i>	-0.001 (-1.08)	-0.001 (-1.22)		-0.001 (-1.15)	-0.001 (-1.21)	
<i>Annual*non-routine</i>	-0.031 (-1.14)	-0.022 (-0.76)		-0.031 (-1.14)	-0.021 (-0.74)	
<i>Director Elect post 2010</i>	-0.069*** (-19.93)	-0.042*** (-19.14)		-0.070*** (-19.99)	-0.042*** (-19.14)	
<i>Amend compensation</i>	-0.045*** (-13.67)	-0.029*** (-14.40)		-0.045*** (-13.42)	-0.029*** (-14.36)	
<i>How close vote result</i>	0.026* (1.80)	0.025** (2.36)		0.027* (1.84)	0.025** (2.37)	
<i>Vote failed</i>	-0.067*** (-5.00)	-0.054*** (-5.87)		-0.067*** (-5.04)	-0.054*** (-5.90)	
<i>Approve compensation</i>	-0.058*** (-13.27)	-0.027*** (-9.83)		-0.058*** (-13.23)	-0.027*** (-9.82)	
<i>Merger</i>	0.010 (1.00)	-0.004 (-0.32)		0.009 (0.97)	-0.004 (-0.32)	
<i>Director Election</i>	0.019*** (8.41)	0.010*** (6.79)		0.019*** (8.45)	0.010*** (6.81)	
Fixed Effects:						
<i>Meeting</i>	Yes	Yes		Yes	Yes	
<i>Year*Non-routine</i>	Yes	Yes		Yes	Yes	
Observations	56,790	100,762		56,790	100,762	
R-squared	0.914	0.870		0.914	0.870	

Notes: This regression shows the splits of the Table 3 results based on institutional ownership. *Supermajority institutional ownership* is defined as institutional ownership of more than 66% of outstanding shares, and *lower institutional ownership* is institutional ownership of less than 66% of outstanding shares. The dependent variable for all columns is participation. I have two measures of treatment. *DEFA* refers to whether a notice was published on EDGAR as a DEFA14A form. *Regulation* refers to whether the firm was subject to the e-proxy regulation. Incomplete matching with Thomson Reuter ownership data resulted in 1,280 observations from Table 3 Panel A being dropped in this analysis. Standard errors are clustered by firm. Inferences are based on t-statistics, reported in parentheses. The statistical difference between tests was calculated using a chi-squared test, with both the chi-squared and p-value reported. Statistical significance levels below 1%, 5%, and 10% are denoted by ***, **, and *, respectively.

Table 5: Voting Outcomes

Panel A: Before Dodd-Frank, All Issues, U.S.

	(1)	(2)	(3)	(4)
<i>% in Agreement with Management Recommendation as Dependent Variable</i>	Routine	Routine	Non-routine	Non-routine
<hr/>				
Treatment:				
<i>DEFA</i>	0.016*		0.007	
	(1.68)		(0.30)	
<i>Regulation</i>		0.011**		-0.015
		(2.33)		(-0.92)
Control Variables:				
<i>Ln(Outstanding)</i>	-0.015***	-0.015***	-0.025	-0.026
	(-3.19)	(-3.21)	(-1.27)	(-1.35)
<i>Ln(Total assets)</i>	0.007	0.007	0.014	0.014
	(1.61)	(1.48)	(0.65)	(0.66)
<i>Delta EPS</i>	-0.000	-0.000	-0.000	-0.000
	(-0.70)	(-0.68)	(-0.03)	(-0.07)
<i>Special meeting</i>	-0.129***	-0.128***	-0.056	-0.057
	(-8.77)	(-8.75)	(-1.47)	(-1.46)
<i>Ln(Acquisition)</i>	0.002	0.002	0.003	0.003
	(0.70)	(0.79)	(0.29)	(0.28)
Fixed Effects:				
<i>Firm</i>	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes
Observations	44,126	44,126	3,255	3,255
R-squared	0.260	0.260	0.456	0.456

Notes: This tests for the effect of the SEC's e-proxy regulation on the percentage of the vote in agreement with management recommendations. The first column shows my measure for adoption based on SEC filings of DEFA14A forms. The second column shows my measure of regulation. Columns three and four are a falsification test that shows the result does not hold with non-routine votes, where no exchange of decision-making power occurs. Inferences are based on t-statistics, reported in parentheses. Statistical significance levels below 1%, 5%, and 10% are denoted by ***, **, and *, respectively.

Panel B: Uncontested Director Elections, U.S. (Table 5 continued)

	(1)	(2)	(3)	(4)	(5)	(6)
% in Agreement with Management Recommendation as Dependent Variable	Design 2 Pre-2010	Cai et al. Pre-2010	Design 2 2010-2015	Cai et al. 2010-2015	Cai et al.	Cai et al.
<i>DEFA</i>	0.010* (1.84)	-0.007 (-1.20)	0.005* (1.85)	-0.011** (-2.01)	-0.012** (-2.54)	-0.004 (-1.06)
<i>Ln(Total Assets)</i>	0.009* (1.84)	-0.010*** (-2.61)	0.002 (0.68)	-0.002 (-0.48)	-0.004 (-0.94)	0.011 (1.46)
<i>Delta EPS</i>	0.000 (0.54)		0.000 (0.35)			
<i>Ln(Outstanding)</i>	-0.015*** (-3.15)		-0.002 (-0.43)			
<i>Ln(Acquisition)</i>	0.001 (0.54)		0.001 (0.59)			
EBITDA		0.000 (1.05)		-0.000*** (-3.65)	-0.000*** (-2.87)	-0.000 (-0.60)
E Index		-0.006** (-2.24)		-0.003 (-0.81)	-0.003 (-1.20)	-0.002 (-0.89)
Abnormal CEO Compensation		0.000 (0.17)		0.000 (1.09)	0.000 (1.17)	0.000* (1.89)
Majority Voting		0.002 (0.35)		0.002 (0.39)	0.005 (1.07)	0.005 (1.02)
Board Size		-0.007*** (-3.20)		-0.013*** (-3.11)	-0.010*** (-3.49)	-0.000 (-0.17)
Percent Independent		0.011*** (3.82)		0.013*** (3.14)	0.011*** (3.52)	0.003 (0.92)
Board Holdings		0.001*** (2.97)		0.001** (2.46)	0.001*** (2.73)	0.000 (0.74)
Fixed Effects:						
<i>Firm</i>	Yes	No	Yes	No	No	Yes
<i>Industry</i>	No	Yes	No	Yes	Yes	No
<i>Year</i>	Yes	Yes	Yes	Yes	Yes	Yes
Observations	36,264	12,610	54,966	37,051	49,661	49,631
R-squared	0.362	0.231	0.445	0.363	0.340	0.581

Notes: This tests for the effect of the SEC's e-proxy regulation on the percentage of the vote in agreement with management recommendations just for uncontested director elections. The first two columns show the period before Dodd-Frank and the NYSE Rule 452 change. The dependent variable is the measure for adoption based on SEC filings of DEFA14A forms. Columns three and four show after Dodd-Frank and the NYSE Rule 452 change, where all uncontested elections are non-routine. Columns five and six show for the entire sample. Standard errors are clustered by firm. Inferences are based on t-statistics, reported in parentheses. Statistical significance levels below 1%, 5%, and 10% are denoted by ***, **, and *, respectively.

Panel C: Canada (Table 5 continued)

	(1)	(2)	(3)	(4)	(5)	(6)
<i>% in Agreement with Management Recommendation as Dependent Variable</i>						
<i>Registered Investor Notice and Access</i>	0.793** (2.33)	0.848** (2.46)				
<i>Beneficial Investor Notice and Access</i>			0.677 (1.60)	0.688 (1.65)		
<i>Any Notice and Access</i>					0.738* (1.72)	
<i>Notice and Access</i>						0.433* (1.98)
Controls:						
<i>Special Meeting</i>	-0.977 (-0.39)	-1.200 (-0.48)	-0.985 (-0.39)	-1.212 (-0.48)	-1.193 (-0.48)	-1.190 (-0.47)
<i>Ln(Outstanding shares)</i>	0.002 (0.02)	-0.043 (-0.63)	0.005 (0.08)	-0.038 (-0.55)	-0.039 (-0.56)	-0.041 (-0.61)
<i>Ln(Total Assets)</i>	0.105 (1.28)	-0.659*** (-4.79)	0.101 (1.17)	-0.660*** (-4.69)	-0.661*** (-4.69)	-0.661*** (-4.73)
<i>Delta EPS</i>	0.074 (0.79)	0.037 (0.40)	0.069 (0.75)	0.033 (0.36)	0.039 (0.44)	0.037 (0.40)
<i>Merger or Acquisition</i>	-0.896 (-0.86)	-0.311 (-0.29)	-0.878 (-0.82)	-0.302 (-0.27)	-0.293 (-0.26)	-0.287 (-0.26)
<i>Ln(Market Value)</i>		0.853*** (9.05)		0.849*** (9.05)	0.846*** (9.10)	0.852*** (9.03)
<i>Management recommended "For"</i>		27.689*** (158.72)		27.606*** (176.98)	27.592*** (176.37)	27.638*** (168.89)
Fixed Effects:						
<i>Voting Item Description</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Clustering</i>	Voting Item Description	Voting Item Description	Voting Item Description	Voting Item Description	Voting Item Description	Voting Item Description
Observations	4,996	4,984	4,996	4,984	4,984	4,984
R-squared	0.126	0.146	0.126	0.146	0.146	0.146

Notes: This table shows the relationship between the percentage of the vote in agreement with management recommendation and use of notice and access with voting item description fixed effects. The dependent variable is scaled by 100. This design highlights the selection between firms with regard to choice of dissemination method. Because of the level of detail in the Canadian setting with regard to dissemination, I measure firm choice in dissemination method in a number of ways. Inferences are based on t-statistics, reported in parentheses. Statistical significance levels below 1%, 5%, and 10% are denoted by ***, **, and *, respectively.

Panel D: Canada

	(1)	(2)	(3)	(4)
% in Agreement with Management Recommendation as Dependent Variable				
<i>Notice and Access</i>	-0.551* (-1.66)	-0.551** (-2.02)	-0.384 (-1.14)	
<i>Registered Investor Notice and Access</i>				-0.881 (-1.45)
<i>Special Election</i>	3.886** (2.18)	3.886** (2.38)	-0.395 (-0.22)	3.971** (2.22)
<i>Ln(Outstanding)</i>	-0.077 (-0.60)	-0.077 (-0.69)	-0.095 (-0.72)	-0.078 (-0.61)
<i>Ln(Total Assets)</i>	0.185 (0.17)	0.185 (0.23)	0.156 (0.14)	0.183 (0.17)
<i>Delta EPS</i>	0.269* (1.68)	0.269** (2.23)	0.270* (1.66)	0.258 (1.58)
<i>Merger</i>	-0.872 (-0.46)	-0.872 (-0.55)	-1.284 (-0.65)	-0.909 (-0.48)
<i>Management Recommendation</i>	40.609*** (3.18)	40.609*** (3.30)		40.595*** (3.18)
<i>Director Election</i>	5.194*** (8.34)	5.194*** (8.53)		5.192*** (8.34)
<i>Auditor Ratify</i>	7.271*** (10.50)	7.271*** (10.95)		7.268*** (10.49)
<i>Sponsor</i>	25.858** (2.41)	25.858** (2.52)		25.858** (2.41)
Fixed Effects:				
<i>Firm</i>	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	Yes	Yes
<i>Clustering</i>	Firm	Meeting	Firm	Firm
Observations	4,994	4,994	4,994	4,994
R-squared	0.367	0.367	0.298	0.367

Notes: This table shows the relationship between the percentage of the vote in agreement with management and the choice of dissemination method when controlling for firm fixed effects. The dependent variable is scaled by 100. Firm fixed effects and controls for the potential contentiousness of the issue are used to help look at the effect of dissemination reducing selection effects. Inferences are based on t-statistics, reported in parentheses. Statistical significance levels below 1%, 5%, and 10% are denoted by ***, **, and *, respectively.

Table 6: Strategic Dissemination

	(1) U.S. Postal Mail	(2) U.S. Postal Mail	(3) Canada Postal Mail	(4) Canada Notice and Access	(5) Canada Postal Mail	(6) Canada Notice and Access	(7) Canada Postal Mail	(8) Canada Notice and Access
<i>Proxy contest</i>	0.115** (2.15)	0.199*** (5.24)	-0.488** (-1.99)	0.559* (1.96)	0.119 (1.47)	-0.205 (-1.58)	0.119* (1.68)	-0.205* (-1.73)
<i>Special meeting</i>	0.098*** (5.80)	0.134*** (8.25)	0.189*** (3.92)	-0.345*** (-4.12)	0.199** (2.37)	-0.332** (-2.32)	0.199** (2.57)	-0.332** (-2.44)
<i>Vote failed</i>	0.007 (1.30)	0.025* (1.72)	0.044* (1.93)	-0.073* (-1.85)	0.063 (1.62)	-0.121 (-1.59)	0.063** (2.10)	-0.121** (-2.07)
<i>Close management vote (<70% For and management for)</i>	0.011* (1.72)	0.021* (1.81)	0.004 (0.30)	-0.013 (-0.48)	-0.015 (-0.95)	0.030 (1.09)	-0.015 (-1.14)	0.030 (1.28)
<i>Ln(Total assets)</i>	0.004 (0.37)	-0.023*** (-3.43)			-0.044 (-0.90)	0.094 (0.97)	-0.044 (-1.10)	0.094 (1.19)
<i>Delta EPS</i>	0.001 (0.33)	0.000 (0.08)			-0.000 (-0.06)	-0.000 (-0.03)	-0.000 (-0.08)	-0.000 (-0.04)
<i>Ln(Market value)</i>	0.002 (0.20)	-0.021*** (-3.25)			0.067 (1.56)	-0.131* (-1.92)	0.067** (2.00)	-0.131** (-2.39)
<i>Ln(Outstanding)</i>	-0.003 (-0.29)	-0.039*** (-6.55)	-0.000 (-0.05)	0.000 (0.04)	-0.007 (-1.17)	0.013 (1.20)	-0.007 (-1.41)	0.013 (1.47)
<i>Year</i>			-0.069*** (-6.45)	0.129*** (6.59)	-0.042*** (-2.62)	0.065** (2.11)	-0.042*** (-3.18)	0.065*** (2.62)
Fixed Effects:								
<i>Firm</i>	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year</i>	Yes	Yes	No	No	No	No	No	No
<i>Industry</i>	No	Yes	No	No	No	No	No	No
Clustering:	Firm	Firm	Firm	Firm	Firm	Firm	Meeting	Meeting
Observations	147,225	147,225	15,082	15,082	5,433	5,433	5,433	5,433
R-squared	0.694	0.169	0.761	0.773	0.866	0.861	0.866	0.861

Notes: This regression shows the relationship between full access dissemination of proxy statements and variables associated with management's perception of the importance of the vote. The dependent variable in the U.S. regressions (columns 1 and 2) is an indicator variable for whether the company filed its electronic notice

as a DEFA14A on the SEC website, where a 1 represents the company has not filed a notice. The first column shows the results with firm fixed effects, and the second column shows the results with industry fixed effects. There are two dependent variables used in the Canadian regressions. Postal mail is an indicator variable for whether full access, where all proxy documents are disseminated through postal mail, is used for all investors. The other dependent variable, notice and access, is equal to zero if full access is used, equal to one if notice and access is used for a subsection of the total investor base, and equal to two if notice and access is used for all investors. All standard errors are clustered as indicated in the row titled clustering. Inferences are based on t-statistics, reported in parentheses. Statistical significance levels below 1%, 5%, and 10% are denoted by ***, **, and *, respectively.

Table 7: Switching and Stratification

Panel A: Switching Dissemination

Total number of shareholder meetings in U.S. sample that use different dissemination method from previous period	813 (4.4% of shareholder meetings in sample)
Number of U.S. companies that use multiple dissemination methods within a year	166
Total number of shareholder meetings in Canadian sample that use different dissemination method from previous period	200 (4.9% of shareholder meetings in sample)

Notes: This table shows the number of companies that change dissemination method in a single year or between years in the United States and Canada. For the first and second row, a change in dissemination method only counts a switch after the company has adopted e-proxy in the United States. Therefore, a switch would include returning to hard-copy dissemination and any re-adoption of e-proxy. The U.S. sample extends from 2011 to 2015, and the Canadian sample goes from 2013 to 2016 and includes only observations where I could match with at least one prior meeting observation.

Panel B: Stratification of Dissemination

Type of Stratification	Companies
Number of Shares	12
Location of Investor	6
Type of Investor	88
Undecided	5

Notes: This table provides data about the number of firms that use different methods of dissemination for different investors for a single election in Canada, which is called stratification. I decompose these data according to the most common types of stratification criteria as reported in the company's Notice of Meeting and Record Date. *Undecided* refers to companies that would disclose "To be determined" or "To follow" and then file an amended notice in the week before the election. One hundred eleven out of 4,325 companies stratify or 2.6% of the sample.

Panel C: Dissemination by Meeting Type

Type of Meeting	% Using Notice and Access	Total Number of Observations
Annual	31.2%	119,426
Special	10.1%	1,736
Proxy Contest	11.2%	1,148
Written Consent	0%	59

Canada

Type of Meeting	% Using Notice and Access for Beneficial Investors	% Using Notice and Access for Registered Investor	Total Number of Observations
Annual	19.1%	15%	15,560
Annual/Special	22.3%	18.7%	14,630
Proxy Contest	38%	8%	250
Special	6.4%	5.1%	481

Notes: This table presents the percentage of the observations using notice and access and total number of observations. The first four rows are from my U.S. sample for the years 2011 through 2015 based on the type of meeting. The type of meeting is based on ISS classification, where Annual/Special elections are included as *Special*.

Table 8: Robustness

Dependent Variable= <i>Participation</i>	(1) Fewer Controls	(2) Fewer Controls & Fewer Fixed Effects	(3) Fewer Controls & Fewest Fixed Effects
Treatment:			
<i>Regulation*non-routine</i>	-0.027*** (-3.78)	-0.021*** (-6.30)	-0.022*** (-6.56)
Control Variables:			
<i>Director Election post 2010</i>	-0.053*** (-33.43)	0.027*** (14.54)	0.022*** (11.09)
<i>Amend compensation</i>	-0.037*** (-25.42)	0.023*** (13.88)	0.021*** (12.73)
<i>How close</i>	0.026*** (3.78)		
<i>Vote fail</i>	-0.038*** (-6.59)		
<i>Approve Compensation</i>	-0.043*** (-22.80)	0.016*** (7.32)	0.014*** (6.16)
<i>Merger</i>	-0.004 (-0.47)	0.012* (1.77)	-0.032*** (-3.31)
<i>Director Election</i>	0.018*** (15.61)	0.018*** (15.17)	0.021*** (17.13)
<i>Non-routine</i>		-0.137*** (-44.71)	-0.132*** (-42.53)
Fixed Effects:			
<i>Meeting</i>	Yes	Yes	No
<i>Non-routine*Year</i>	Yes	No	No
<i>Year*Firm</i>	No	No	Yes
Observations	253,035	259,867	282,246
R-squared	0.890	0.702	0.694

Notes: This table shows the effect of the SEC's e-proxy regulation on participation in shareholder elections, using the regulation cutoff. The dependent variable is participation, which is measured as the number of votes voted for + voted against + voted withheld + voted abstain. *Regulation* refers to whether the firm was subject to the e-proxy regulation. Standard errors are clustered by firm. Inferences are based on t-statistics, reported in parentheses. Statistical significance levels below 1%, 5%, and 10% are denoted by ***, **, and *, respectively.