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Investor Communication and Say-on-Pay

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In this Article, I show that the federal say-on-pay mandate provides a channel for institutional investors to communicate openness to an activist engagement. In particular, I exploit a unique feature of the say-on-pay regulatory regime to show that holding such a vote increases the odds of future activism. I then test implications of this finding, providing evidence that the results of those votes predict the likelihood of activism, and that the say-on-pay voting system facilitates successful outcomes for activists. I conclude that those who favor shareholder voting as a corporate governance mechanism should carefully consider the effects of such votes on investor communication when evaluating such policies.

Investor Communication and Say-on-Pay

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INVESTOR COMMUNICATION AND SAY-ON-PAY

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I. INTRODUCTION

In 2017, investors at Whole Foods Market cast a surprising vote. Under the Dodd-Frank Act's requirement that investors vote on executive pay, investors at Whole Foods had, for years, consistently voted overwhelmingly to approve the compensation of the company's top managers. But in 2017, with the company's performance lagging, the number of votes cast against approving executives' pay suddenly tripled.[1] Observers were puzzled: the firm's top managers had not received significant pay raises, and its founder had publicly committed years before to limits on executive pay.[2] But two months after the vote, a well-known activist hedge fund named Jana Partners announced a significant stake in Whole Foods, leading to the replacement of much of the incumbent board and, eventually, the sale of the company to Amazon.[3] Jana earned a

[1] *Compare* Whole Foods Market, Inc., Form 8-K (Sept. 24, 2015) (documenting that less than 4% of investors voted against approving executives' compensation in 2015) *with* Whole Foods Market, Inc., Form 8-K (noting that 11% of shares voted against in 2017).

[2] John Mackey, Whole Foods' co-founder and CEO, committed the company to a cap prohibiting any executive from earning more than nineteen times the salary of the average worker. *See* John Mackey & Raj Sisodia, CONSCIOUS CAPITALISM: LIBERATING THE HEROIC SPIRIT OF BUSINESS (2013). Whole Foods' entire executive team received less than $5 million in total compensation in 2016.

[3] *See* Jana Partners, Schedule 13D (filed March 29, 2017).

substantial profit,[4] having correctly identified investors at Whole Foods—among thousands of public companies—as sufficiently dissatisfied to support change at the company. Notably, Jana did this notwithstanding the significant impediments to investor communication imposed by federal securities law.[5]

In this Article, I provide evidence of an important—if unintended—consequence of Dodd-Frank's say-on-pay mandate: the facilitation of communication between activist hedge funds and other investors. Since there are few low-cost avenues for such communication, and activists need support from other shareholders to effect change, say-on-pay votes offer a rare insight into of investor satisfaction—or dissatisfaction—with management. Exploiting the unique setting provided by the structure of Dodd-Frank's voting mandate, I offer evidence that the mere occurrence of a say-on-pay vote increases the likelihood of the appearance of a hedge-fund activist. I then test certain implications of this finding. I argue that lawmakers and commentators now advocating new shareholder-vote mandates should give more careful consideration to the communication implications of such mandates—and their effect on corporate governance.

The Article begins by documenting how the institutional structure of public-company ownership and securities law impede communication among public-company investors. Next, I explain why hedge-fund activists increasingly rely on support from other investors to effect change. A shareholder-vote mandate, I argue, should be understood in the context of existing law limiting investors' ability to communicate about corporate management—a consequence that lawmakers appear not to have considered when Dodd-Frank became law.

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[4] Alex Morrell, *The Hedge Fund That Turned Whole Foods Into a Takeover Target for Amazon is Walking Away with $300 Million*, BUSINESS INSIDER (2017).

[5] For a description of the law and literature explaining how federal law constrains communications among public-company investors, *see infra* Part II.A.

I then provide empirical evidence of the relationship between say-on-pay votes and the emergence of an activist. First, exploiting the fact that Dodd-Frank requires firms to select the cadence of say-on-pay votes—a vote must occur at least every one, two, or three years—I show that the mere occurrence of a vote increases the likelihood of activism. I then test implications of this finding, providing cross-sectional evidence of the relationship between the proportion of investors voting against management and future activism. I also provide suggestive evidence that Dodd-Frank's enactment of the say-on-pay voting system has improved activist outcomes.

These findings carry important implications for policymakers. Lawmakers advocating new mandatory shareholder votes on a wide range of matters should take account of the effects of such mandates on investor communication before making them law. Regulators now considering changes to federal securities law governing hedge-fund activists, too, should examine such changes in the context of the evidence presented here.

This Article proceeds as follows. Part II describes how securities law constrains investor communications, the role of shareholder activism in contemporary corporate governance, and the adoption of Dodd-Frank's say-on-pay mandate. Part III provides evidence of shareholder communication through say-on-pay votes. Part IV discusses policy implications for ongoing debates over mandated shareholder votes as a mechanism for corporate accountability. Part V concludes.

II. INVESTOR COMMUNICATION, ACTIVISM, AND SAY-ON-PAY

A long literature has shown that institutional context and securities law significantly influence the expression of investor preferences. In this Part, I explain how those considerations inform analysis of the effects of federal intervention in corporate governance.

A. Institutional and Legal Constraints on Investor Communication

As Berle and Means famously observed, the separation of ownership and control at widely held corporations produces agency costs.[6] Monitoring management is expensive, and collective action problems give investors little reason to think that such monitoring is likely to matter, exacerbating agency problems.[7] That would be true even if the institutional structure of modern public-company ownership, and the law governing those arrangements, did not discourage shareholders from discovering information and sharing it with fellow investors. But both do.

As to the former, most public-company shareholders today invest through large institutional intermediaries like pension funds. At first blush, the institutions' size offers hope that they might overcome the collective-action problems individual investors face. But in practice, as Bernard Black, Jack Coffee and Ed Rock explain, institutional incentives limit the degree to which they will actively oversee agency problems.[8] The institutions face conflicts of interest, valuing relationships with corporate insiders over holding their feet to the fire, and in any event often prefer selling a company's shares over monitoring wayward managers.[9]

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[6] ADOLF BERLE & GARDINER MEANS, THE MODERN CORPORATION AND PRIVATE PROPERTY (1932).

[7] Frank H. Easterbrook & Daniel R. Fischel, *Voting in Corporate Law*, 26 J.L. & ECON. 395, 402 (1983) ("collective choice problems . . . suggest that [shareholder] voting would rarely have any function except in extremis").

[8] Bernard Black, *Agents Watching Agents: The Promise of Institutional Investor Voice*, 39 UCLA L. REV. 811 (1992); John C. Coffee, Jr., *Liquidity Versus Control: The Institutional Investor as Corporate Monitor*, 91 COLUM. L. REV. 1277 (1991); Edward Rock, *The Logic and (Uncertain) Significance of Institutional Shareholder Activism*, 79 GEO. L.J. 445 (1991).

[9] Black, *supra* note 8, at 814 ("Many institutional investors depend on corporate managers for business. They face conflicts of interest if they monitor corporate managers."); Coffee, *supra* note 8, at 1330 ("The first and most obvious problem with institutions as monitors is that they are watchdogs whose every incentive is to flee at the first sign of trouble."); *see also* Bernard S. Black, *Shareholder Passivity Reexamined*, 89 MICH. L. REV. 520 (1990).

Moreover, these institutions increasingly manage index funds: broadly diversified portfolios for which investments in corporate oversight generate little marginal value. Although there is some dispute about the degree to which particular institutions make such investments, as Lucian Bebchuk, John Morley, and Scott Hirst have explained, there is little reason to expect index funds to invest optimally in corporate monitoring.[10]

So the institutions that own large public-company stakes have few incentives to monitor corporate managers. And they have even less reason to share any information they discover through monitoring with other investors. For one thing, the economics of information acquisition suggest that investments in monitoring can be justified by informed trading.[11] To the degree that sharing information with others reduces the returns to such trading, there will be little reason for investors to communicate.

For another, securities law has erected such significant obstacles to investor communication that the law, in the words of Bernard Black, effectively "foreclose[s] shareholder ability to form an effective voting coalition."[12] For example, the rules governing shareholder voting restrict any discussion among investors regarding their voting intentions;[13] such

[10] Lucian A. Bebchuk & Scott Hirst, *Index Funds and the Future of Corporate Governance: Theory, Evidence, and Policy*, 119 COLUM. L. REV. 2029 (2019) (identifying limitations of index funds' incentives to engage in monitoring); John D. Morley, *Too Big to Be Activist*, 92 S. CAL. L. REV. 1407 (2019).

[11] The canonical model is Sanford J. Grossman & Joseph E. Stiglitz, *On the Impossibility of Informationally Efficient Markets*, 70 AM. ECON. REV. 393 (1980). For an important explanation of the limitations of that model and implications for securities law, *see* Jeffrey N. Gordon & Lewis A. Kornhauser, *Efficient Markets, Costly Information, and Securities Research*, 60 N.Y.U. L. REV. 761, (1985).

[12] Black, *supra* note 9 at 531. Like others, Professor Black wonders whether institutional passivity is inevitable or instead endogenously determined by law. *See id*. at 530-567 (noting, with characteristic clarity, that that Article "is long and full of regulatory detail," but that the "length, however, is part of [his] message").

[13] In response to particularly forceful critiques from commentators, *see id*; *see also* Mark J. Roe, . . . *Or Free Speech for Shareholders?*, WALL ST. J. (December 18, 1991), the SEC amended these rules to give shareholders limited leeway in contests in which control is not contested. *See* SEC Rule 14a-4(d)(4), 17 C.F.R. § 240.14a-4(d)(4).

communications usually require preclearance from the Securities and Exchange Commission itself.[14] Similarly, although proposals that shareholders may offer for a vote on the corporate ballot might facilitate investor communication, federal law has long imposed substantial limitations on their use.[15] (The SEC recently adopted new rules further limiting shareholder proposals.[16])

Federal law imposes even greater costs on larger investors who communicate about corporate oversight. Significant shareholders who do so risk becoming a "group" for purposes of rules requiring investors to disclose their intentions regarding corporate control[17] as well as revealing each trade they make in the company's stock within 48 hours and disgorging so-called "short-swing profits."[18]

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[14] *See* Black, *supra* note 9, at 539-40 (citing Rule 14a-9, 17 C.F.R. § 240.14a-9(a) (2018) (asking the reader, at a rather different time, to "imagine a political campaign where each contestant . . . had to state a long list of prescribed facts," "avoid misleading anyone," and "correct any prior statements which were no longer accurate.")).

[15] *See id.* at 541 (noting that the SEC rule governing shareholder proposals, Rule 14a-8, 17 C.F.R. § 240.14a-8 (2018), bars proposals "in three key areas" critical to monitoring corporate management: "director nominations," "statements in opposition to management proposals," and "alternatives to management proposals").

[16] SEC, Final Rule: Procedural Requirements and Resubmission Thresholds Under Exchange Act Rule 14a-8 (Sept. 23, 2020). In dissent, one Commissioner produced data indicating that the new restrictions would result in the removal of 40% of corporate-governance proposals from the corporate ballot. SEC, Data Appendix to Dissenting Statement of Commissioner Robert J. Jackson, Jr. (Nov. 7, 2019), at 6.

[17] The Williams Act, developed in response to tender-offer techniques that imposed pressure on investors, mandates certain disclosures by investors who own 5% or more of a public company's shares under Exchange Act Section 13(d). *See* Pub. L. No. 90-439, 82 Stat. 454 (1968); *see also Full Disclosure of Corporate Equity Ownership and in Corporate Takeover Bids: Hearing Before the Senate Subcomm. on Securities of the Senate Comm. on Banking and Currency*, 90th Cong. 134 (1967) (describing the influence of the testimony of Stanley Kaplan, Professor, University of Chicago). SEC rules promulgated under the Williams Act extend those mandates to investors the SEC deems to have agreed to buy, sell, or vote shares in concert—or, in securities-law parlance, to act as a "group." SEC, Rule 13d-5(b)(1), 17 C.F.R. § 240.13d-5(b)(1)(2018).

[18] Section 16(a) of the 1934 Securities Exchange Act mandates such disclosures for directors, officers, and 10% or greater holders of a public company's shares, 15 U.S.C. § 78p(a), and Section 16(b) prescribes the return of profits from the purchase and then sale of a security within six months, *id.* § 78p(b). The SEC's Staff has informed investors that "[g]roup membership is construed the same way for purposes of Section 16(a) . . . as for purposes of Section 13(d)." SEC, Exchange Act Section 16 Q&A, Question 110.02 (2009).

What's more, recent developments in federal law raise the specter of even harsher legal consequences for investor communications. Consider, for example, the law of insider trading, which punishes both those who provide and those who receive material nonpublic information that leads to improper trading;[19] many now wonder whether once-standard methods of investor communication raise a risk of criminal liability.[20] Or consider recent evidence that institutional investors have powerful incentives to reduce competition among companies they own.[21] In response, many have called for investigation of whether these institutions have violated federal antitrust law.[22]

To be sure, legal constraints on investor communication may be justified by other policy priorities. For purposes of this Article, however, examining those justifications is beyond my scope. Instead, I note only the broad consensus that the institutional structure of ownership and the law that governs it imposes significant costs on investors who might otherwise communicate their views about corporate management. In the next section, I consider the influence of those costs for activist investors.

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[19] Whatever one thinks of the emergence of insider-trading prohibitions from securities law's traditional antifraud prohibition, *see* HENRY MANNE, INSIDER TRADING AND THE STOCK MARKET (1966), what is clear is that the contours of criminal liability, particularly for those who give or receive otherwise confidential information, are sufficiently unclear to give investors pause before communicating their views to others, *see, e.g.*, John C. Coffee, Jr., *Mapping the Future of Insider Trading Law: Of Boundaries, Gaps, and Strategies*, 2013 COLUM. BUS. L. REV. 281 (2013).

[20] Matt Levine, *Money Stuff: Insider Trading Isn't So Simple*, BLOOMBERG OPINION (Oct. 15, 2018) ("A lot of securities analysis [involves techniques that all] focus on getting information that *other people don't have*. Are all of these things fair? I don't know what 'fair' means. Are all of them legal? In insider trading, famously, nobody quite knows what 'legal' means.").

[21] *See, e.g.*, Jose Azar, Martin C. Schmalz & Isabel Tecu, *Anti-Competitive Effects of Common Ownership*, 73 J. FIN. 1 (2018).

[22] Einer Elhauge, *Horizontal Shareholding*, 129 HARV. L. REV. 1267 (2018).

B. Shareholder Activism and Investor Communication

Investors seeking to effect change at modern American public companies ordinarily do not attempt to acquire actual control of the firm.[23] Instead, so-called "activist" shareholders acquire a limited equity stake and then seek to persuade other investors that change is needed. As Jeffrey Gordon and Ronald Gilson have pointed out, activism in part reflects a response to the limited incentives of diversified institutional investors to monitor the firms they own.[24] "[A]ctivists gain their power not because of their equity stakes, which are not controlling, but because of their capacity to present convincing plans to institutional shareholders, who ultimately will decide whether the activists' proposed plan should be followed."[25]

As noted in the previous section, however, securities law imposes significant costs on communication among investors. For this reason, activists have limited means of understanding whether a particular firm's shareholder base is likely to welcome an activist intervention.

That is not to say that activists have *no* way to assess the likelihood that a potential target's shareholders will support an insurgent. Activists can often identify which institutions are

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[23] One reason, of course, is that Delaware law gives corporate insiders broad legal authority to reject unfriendly acquirers—notwithstanding strong arguments that the costs of this choice have outweighed its economic benefits. *Compare* Frank H. Easterbrook & Daniel R. Fischel, *The Proper Role of a Target's Management in Responding to a Tender Offer*, 94 HARV. L. REV. 92 (1981) *and* Lucian Arye Bebchuk, *The Case for Facilitating Competing Tender Offers*, 95 HARV. L. REV. 1028 (1982) *with* Martin Lipton, *Takeover Bids in the Target's Boardroom*, 35 BUS. LAW. 101, 103 (1979).

[24] There is a lengthy debate about whether activists, on average, enhance firm value. *Compare, e.g.*, Alon Brav, Wei Jiang, Frank Partnoy & Randall Thomas, *Hedge Fund Activism, Corporate Governance, and Firm Performance*, 63 J. FIN. 1729 (2008) *and* Lucian A. Bebchuk, Alon Brav & Wei Jiang, *The Long-Term Effects of Hedge Fund Activism*, 115 COLUM. L. REV. 1085 (2015) *with* Leo E. Strine, Jr., *Who Bleeds When the Wolves Bite?: A Flesh-and-Blood Perspective on Hedge Fund Activism and Our Strange Corporate Governance System*, 126 YALE L. J. 1870 (2017) *and* John C. Coffee, Jr. & Darius Palia, *The Wolf at the Door: The Impact of Hedge Fund Activism on Corporate Governance*, 41 J. CORP. L. 545 (2016). That debate is beyond the scope of my Article. For present purposes, I argue only that, in light of the law governing investor communications, activists value indications of investor preferences.

[25] Ronald J. Gilson & Jeffrey N. Gordon, *The Agency Costs of Agency Capitalism: Activist Investors and the Revaluation of Governance Rights*, 113 COLUM. L. REV. 863, 867 (2013).

the largest holders at a particular target company and, based on the institutions' voting history, assess the chances that an intervention will have sufficient shareholder support.[26] Indeed, recent empirical work shows that activists choose targets, in part, in light of the makeup of the firm's shareholder base.[27] Similarly, recent evidence indicates that the outcome of a particular activist intervention—whether, for example, it results in a proxy contest, a settlement,[28] or a desired operational change—is also related to the firm's investor base.[29]

Still, an activist contemplating a costly intervention at a public company can benefit from knowing more than merely the makeup of the firm's shareholder base. For one thing, an institutional investor's previous votes on activist engagements are unlikely to be perfectly predictive of how that institution will vote on any particular future engagement. For another, more recent information on shareholder satisfaction with management may be valuable for activists concerned with the timing of their intervention.

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[26] Because securities law requires large investors to disclose their holdings in public companies, an activist can identify a particular target's shareholder base at relatively low cost. *See* Section 13(f) of the Securities Exchange Act of 1934, 15 U.S.C. § 78m(f); *see also* SEC Rule 13f-1, 17 C.F.R. § 240.13 (2018). For an example of market participants using this information—both to initiate activist campaigns and defend against them—*see* LAZARD, FIRST QUARTER 2020 13F FILINGS REPORT (May 2020).

[27] *See* Alon Brav, Wei Jiang, Tao Li & James Pinnington, *Picking Friends Before Picking (Proxy) Fights: How Mutual Fund Voting Shapes Proxy Contests* (ECGI Finance Working Paper No. 601) (2020).

[28] Settlements with the incumbent board involving the appointment of activist-approved directors are an increasingly common resolution of activist engagements. Lucian Bebchuk, Alon Brav, Wei Jiang & Thomas Keusch, *Dancing with Activists*, 137 J. FIN. ECON. 1 (2020). In prior work, I examine the effect of such settlements on information flow from the firm to the market. John C. Coffee, Jr., Robert J. Jackson, Jr., Joshua R. Mitts & Robert Bishop, *Activist Directors and Agency Costs: What Happens When an Activist Director Goes on the Board*, 104 CORNELL L. REV. 381 (2019).

[29] *See* Ian R. Appel, Todd A. Gormley & Donald B. Keim, *Standing on the Shoulders of Giants: The Effect of Passive Investors on Activism*, 32 REV. FIN. STUD. 2720 (2019) (finding that passive investors "mitigate[] free-rider problems and facilitates activists' ability to engage in costly, value-enhancing forms of monitoring").

As noted above, federal law has long been understood to make it difficult for investors to convey, and activists to receive, such a view. But a recent federal intervention in matters of corporate governance offers a new means of communication among public-company investors.

C. Federal Corporate Governance and Say-on-Pay

In the wake of the 2008 financial crisis, longstanding critiques of executive pay at public companies attracted policymakers' attention.[30] Claims that taxpayer-funded bailouts were used to finance banker bonuses, in particular, moved the Obama Administration to include executive-compensation reforms in the post-crisis financial regulation proposal that became law as the Dodd-Frank Act in 2010.[31]

Policymakers were particularly concerned that public-company directors lacked sufficient incentives to bargain at arms' length with executives over compensation.[32] Thus, Dodd-Frank included a federal mandate requiring nearly every U.S. public company to hold a nonbinding vote on executive pay.[33]

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[30] Lucian Arye Bebchuk, Jesse M. Fried & David Walker, *Managerial Power and Rent Extraction in the Design of Executive Compensation*, 69 U. CHI. L. REV. 751 (2002), and LUCIAN A. BEBCHUK & JESSE M. FRIED, PAY WITHOUT PERFORMANCE: THE UNFULFILLED PROMISE OF EXECUTIVE COMPENSATION (2004), offer the classic case for why public-company directors may fail to bargain at arms' length with executives over compensation.

[31] *See, e.g.*, Alan S. Blinder, *Crazy Compensation and the Crisis*, WALL ST. J. (May 28, 2009) (capturing the then-prevailing sentiment over executive compensation). In the midst of the political frenzy over executive pay, the Obama Treasury went so far as to create a specialized Office empowered to disapprove compensation at certain firms that were the beneficiaries of federal bailouts. *See, e.g.*, U.S. DEPARTMENT OF THE TREASURY, OFFICE OF THE SPECIAL MASTER FOR EXECUTIVE COMPENSATION, FINAL REPORT OF SPECIAL MASTER KENNETH R. FEINBERG (Sept. 10, 2010).

[32] For the canonical judicial debate, *compare Jones* v. *Harris Assoc.*, 537 F.3d 728 (7th Cir. 2008) (Posner, J., dissenting from denial of rehearing en banc) ("[E]conomic analysis [of executive-pay bargains] is ripe for reexamination on the basis of growing indications that executive compensation in large publicly traded firms is excessive because of the feeble incentives of boards of directors to police compensation") *with Jones* v. *Harris Assoc.*, 527 F.3d 627 (Easterbrook, C.J.) ("Competitive processes are imperfect but remain superior to a 'just price' system administered by the judiciary.").

[33] The statute borrowed from the experience of the United Kingdom, which has mandated such votes since 2002, *see* DIRECTORS REMUNERATION REPORT REGULATIONS 2002. Analysis of the desirability of this development—or whether it reflects what has sometimes been referred to as "quack" federalization of corporate

Recognizing that mandating such a vote every year would be costly, however, Congress included a provision unique among the federal securities laws.[34] Rather than mandating annual votes, the statute permits shareholders to choose the frequency of say-on-pay votes at their firm.[35] Specifically, investors may choose between holding such a vote annually, every two years, or every three years. A shareholder vote on that choice—a "say-on-frequency" vote—must occur once at least every six years.[36]

In the nine years since the SEC implemented this statute,[37] an extensive literature has developed examining its effects on executive pay. Some studies find little evidence that

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governance—is beyond the scope of this Article. Roberta Romano, *The Sarbanes-Oxley Act and the Making of Quack Corporate Governance*, 114 YALE L.J. 1521 (2005). But to the degree that lawmakers were motivated by concerns that banker pay before the financial crisis produced incentives for excessive risk-taking, U.S. DEPARTMENT OF THE TREASURY, *supra* note 31, it is worth noting that increasing shareholder influence over executive-pay bargains is unlikely to solve that problem. The reason is that shareholders and bankers are united in their interest in internalizing profits from excessive risk-taking if the costs of such risk-taking can be shared with the government through an *ex post* bailout. Lucian Bebchuk & Holger Spamann, *Regulating Bankers' Pay*, 98 GEO. L.J. 247 (2010). To the degree that banker pay creates an economic problem, that problem is properly understood as one of moral hazard. Richard Squire, *Shareholder Opportunism in a World of Risky Debt*, 123 HARV. L. REV. 1151 (2010). Increasing shareholder power over compensation bargains, by contrast, is a potential solution for *agency* problems.

[34] Notwithstanding extensive commentary on the subject, federal securities law, in contrast with state corporate law, has generally not embraced default rules of this type. For an analysis of the optimal structure of default rules related to the balance of power between shareholders and management, see Lucian A. Bebchuk & Scott Hirst, Private Ordering and the Proxy Access Debate, 65 BUS. LAW. 329 (2010).

[35] *See* Section 951 of the Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203 (July 21, 2010) (adding new Section 14A(a) to the Securities Exchange Act of 1934).

[36] *See id.* at Section 951(a)(2) ("Not less frequently than once every 6 years, a proxy or consent or authorization for an annual or other meeting of the shareholders for which the proxy solicitation rules of the Commission require compensation disclosure shall include a separate resolution subject to a shareholder vote to determine whether [the say-on-pay vote] will occur every 1, 2, or 3 years.").

[37] *See* SEC, Final Rule: Shareholder Approval of Executive Compensation and Golden Parachute Compensation, Release Nos. 33-9178, 34-63768, 17 C.F.R. § 240.14a-21(a) (2011) (adopting the relevant rules in January 2011 and requiring most companies to begin holding votes at the first annual shareholders' meeting occurring on or after January 21, 2011). The rule allowed smaller reporting companies to begin say-on-pay votes at the first annual meeting occurring after January 21, 2013. *See id.*

compensation plans respond to the results of say-on-pay votes.[38] Others offer evidence that firms that receive weak support in say-on-pay votes, and those firms' peers, make marginal adjustments to compensation packages.[39] And Jill Fisch, Steven Davidoff Solomon, and Darius Palia have provided important evidence that say-on-pay votes may reflect investor responses to firm-specific performance rather than the details of pay packages.[40]

To my knowledge, however, no prior academic work has examined the possibility that say-on-pay votes offer a rare mechanism for activists to gauge shareholder receptiveness to an activist intervention.[41] One reason may be that, at the time Dodd-Frank became law, no policymaker suggested that the statute was intended to help activist hedge funds understand investor preferences.[42] But given the literature documenting how federal law constrains investor communication, and the increasing importance of activists' understanding of institutional

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[38] Chris Armstrong, Ian Gow & David F. Larcker, *The Efficacy of Shareholder Voting: Evidence from Equity Compensation Plans*, 51 J. ACCTNG. RSCH. 909 (2013). What's more, important recent work identifies negative stock-price reactions when firms alter their compensation programs following the introduction of say-on-pay. David F. Larcker, Allan L. McCall & Gaizka Ormazabal, *Outsourcing Shareholder Voting to Proxy Advisory Firms*, 58 J. L. & ECON. 173 (2015).

[39] Diane K. Denis, Torsten Jochem & Anjana Rajamani, *Shareholder Governance and CEO Compensation: The Peer Effects of Say on Pay*, 33 REV. FIN. STUD. 3130 (2019). For an exceptionally helpful review of the extensive literature on say-on-pay votes, see Fabrizio Ferri & Robert F. Gox, *Executive Compensation, Corporate Governance and Say on Pay*, 12 FOUND. TRENDS IN ACCTNG. 1 (2018).

[40] Jill E. Fisch, Steven Davidoff Solomon & Darius Palia, *Is Say on Pay All About Pay? The Impact of Firm Performance*, 8 HARV. BUS. L. REV. 101 (2018) (providing, to my knowledge, the sole academic commentary to the effect that "granting shareholders [the say-on-pay] forum [to the degree it is used largely to] signal[] their dissatisfaction with the firm's economic performance may be counterproductive").

[41] At least one journalist, however, recently identified this possibility, apparently through discussions with finance professionals. *See* Ronald Orol, *Negative Say-on-Pay Votes Signal "Blood in the Water" For Activists*, THE DEAL (July 14, 2020).

[42] Indeed, many lawmakers who supported Dodd-Frank in general, and the say-on-pay provision in particular, have since expressed deep skepticism about the role of activist investors in contemporary capital markets. *Compare, e.g.*, Sen. Jeff Merkley & Sen. Carl Levin, *The Dodd-Frank Act Restrictions on Proprietary Trading and Conflicts of Interest: New Tools to Address Evolving Threats*, 48 HARV. J. LEGIS. 515 (2011) (describing Sen. Merkley's support for Dodd-Frank) *with* Liz Moyer, *Two Senate Democrats Introduce Bill to Curb Activist Hedge Funds*, N.Y. TIMES DEALBOOK (March 17, 2016) (describing the Senator's support for a bill to prevent activists from "enrich[ing] themselves at the expense of workers, taxpayers, and communities").

investors' views, that possibility seems a plausible, if unintended, consequence of the statute. In the next section, I consider that possibility in more detail.

D. Activism, Investor Communication, and Say-on-Pay Votes

In this section, I consider the possibility that Dodd-Frank's say-on-pay statute provides a mechanism through which activists detect investors' willingness to support an intervention from an insurgent shareholder. In particular, I explain why—although other means of communicating investor preferences are theoretically available—say-on-pay votes may, in practice, be an especially appealing mechanism for investor communication.

To begin, as noted above an activist today is unlikely to obtain a sufficient stake in a public company to take control.[43] Instead, activists must rely on support from other shareholders to pursue their plans—or, if incumbents refuse to engage, an eventual proxy fight. It is well-understood that activists target underperforming firms owned by institutional investors that have previously supported activism.[44] But such targeting cannot assure the activist *ex ante* that the costs of an engagement will be justified after the fact with sufficient shareholder support.

In theory, one can imagine at least three ways that an activist could obtain that assurance.

First, the activist could obtain contractual commitments from institutional investors regarding how they will vote on the activist's plans. As noted above, however, in practice federal securities law makes such an agreement exceptionally, and often prohibitively, costly. An agreement of this type could, among other things, require SEC preclearance to ensure

[43] *See* Gilson & Gordon, *supra* note 25. Among other legal interventions that limit an activist's ability to obtain a larger stake, the Williams Act requires disclosure of activist positions above 5% of a public company's outstanding shares and Delaware law is increasingly solicitous of low-trigger poison pills that stop activist accumulations at thresholds of 10%. Lucian Bebchuk & Robert J. Jackson, Jr., *The Law and Economics of Blockholder Disclosure*, 2 HARV. BUS. L. REV. 39, 59 (2012) ("The United States is the only country in which incumbents can use shareholder rights plans to impose a ceiling on the size of the stakes that can be purchased by outside blockholders.").

[44] *See, e.g.*, Brav et al., *supra* note 27 ("We find evidence of a positive selection effect: dissidents are more likely to initiate contests and proceed to voting when shareholders are expected to be more supportive.").

compliance with the proxy solicitation rules,[45] require disclosure of the investors' agreement under the Williams Act, trigger obligations to disclose subsequent trades within two days and to return all short-swing profits under Section 16, and may even trigger the target company's takeover defenses.[46]

Second, the activist could simply seek private signs from investors regarding their willingness to support the activist's campaign. But even private, informal communication of an institutional investor's voting intentions can implicate the SEC's proxy rules.[47] While informal discussions of this kind may not require disclosure under the Williams Act, increasingly public-company takeover defenses include provisions that might be triggered by such discussions.[48] And perhaps most forebodingly for an investor, confidential discussions of this kind may also raise concerns about insider-trading liability.[49]

Finally, activists could simply observe other public indicators of shareholder satisfaction, such as votes on director elections or investor proposals. But these alternatives, too, have limitations. Votes on director elections are, unlike say-on-pay votes, binding: an institution

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[45] 17 CFR 240.14a-1(l)(iii).

[46] Bebchuk & Jackson, *supra* note 43 (documenting the increasing incidence of low-trigger poison pills directed at activist investors).

[47] *See, e.g.*, David K. Robbins, Stephen D. Alexander & Janice A. Liu, Bingham McCutchen LLP, *Email Correspondence May Be Considered Proxy Soliciting Material* (May 7, 2009) (warning clients that "informal…e-mail correspondence…instant messaging, twittering and other electronic forms of equally informal communication [may] be viewed [as proxy solicitation material] and require same day filing").

[48] Bebchuk & Jackson, *supra* note 43; *see also* Genesco Inc. Second Amended and Restated Rights Agreement (Form 8-K), at 6-7 (Apr. 9, 2010) (providing a real-world example of a poison pill triggered by those "acting in concert," even informally). While there is some question about the legality of takeover defenses of this kind, Marcel Kahan & Edward Rock, *Anti-Activist Poison Pills*, 99 B.U. L. REV. 915, 964 (2019), even the prospect of litigating that question—and risking the consequences of triggering a poison pill—itself may impose sufficient costs to dissuade activists from pursuing this path.

[49] *See, e.g.*, Institutional Shareholder Services, Comment Letter on Amendments to Exemptions from the Proxy Rules for Proxy Voting Advice (Jan. 31, 2020) (noting, in a different context, that such a "vote recommendation might constitute material, nonpublic information").

voting against a director risks unseating her or compromising the relationship between the institution and the board.[50] And shareholder proposals are rarely directed toward the performance of incumbent management. Instead, the evidence shows that such proposals are overwhelmingly sponsored by so-called "gadfly" investors and emphasize one-size-fits-all ideas related to environmental, social, or governance changes.[51] Shareholder votes on such proposals may not provide activists with a reliable indication of investor satisfaction with incumbent management.

By contrast, nonbinding votes on executive pay offer an attractive, low-cost mechanism for institutions seeking to communicate views toward incumbent management. For one thing, the vote is nonbinding; the practical consequences of a significant negative vote are relatively minor. For another, unlike shareholder proposals—which arrive at a selected set of firms—say-on-pay votes are held regularly across all public companies. The text of the actual proposal subject to the vote is mandated by SEC rules and so is consistent across firms.[52] And the proposal's text directly speaks to investors' views about incumbent managers, rather than general environmental, social, or governance questions.

To be sure, activists and the institutional investors whose support they seek have a range of mechanisms for engaging in such communication. But there is reason to expect—although lawmakers and commentators appear not to have contemplated this consequence—that Dodd-Frank's say-on-pay mandate provides one such mechanism. In the next Part, I provide the first

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[50] Institutional investors have strong incentives to maintain their relationship with corporate managers. *See, e.g.*, Black, *supra* note 8.

[51] *See* SEC, Data Appendix to Dissenting Statement of Commissioner Robert J. Jackson, Jr., *supra* note 16, at 1 (citing Nickolay Gantchev & Mariassunta Giannetti, *The Costs and Benefits of Shareholder Democracy: Gadflies and Low-Cost Activism*, forthcoming, REV. FIN. STUD. (2021)).

[52] The SEC instructs that the "resolution shall indicate that the shareholder advisory vote under this subsection is to approve the compensation of the registrant's named executive officers." SEC Rule 14a-21(a), 17 C.F.R. § 240.14a-21(a).

evidence that activist investors use say-on-pay votes as a sign of investors' openness to a future activist intervention.

III. Evidence on Shareholder Communication and Say-on-Pay

In this Part, I provide evidence that activist shareholders use say-on-pay votes to gauge investors' sentiment towards incumbent management. I begin by describing my dataset and the structure of Dodd-Frank's say-on-pay mandate, which allows firms to choose the frequency with which say-on-pay votes are held. I exploit this unique feature to study the effects of such votes on future activism. I then show cross-sectionally that the results of these votes predict future activism. Finally, I offer suggestive evidence that that the introduction of the say-on-pay voting regime in Dodd-Frank corresponds with an increase in successful outcomes for activists.

A. Data

I begin by drawing data on say-on-pay votes from Institutional Shareholder Services Voting Analytics, including the dates of such votes, the frequencies at which each firm holds the vote, and the vote results.[53] My empirical design exploits the fact that firms may choose to hold a say-on-pay vote every one, two, or three years. Table 1 below summarizes the frequency choices U.S. public companies have made under that law:

Frequency of Say-on-Pay Votes	Percentage of Firms
Annually	86.1%
Once Every Two Years	0.9%
Once Every Three Years	13.0%

Table 1. Summary Statistics: Frequency of Say-on-Pay Votes[54]

[53] *See* Institutional Shareholder Services Voting Analytics Database (2020). I provide additional detail on the assembly of my dataset in the Appendix.

[54] Specifically, this table shows the proportions of voting frequency regimes at the time each vote was held throughout the sample.

As Table 1 shows, the overwhelming majority of firms elect to hold a say-on-pay vote annually.[55] But a meaningful proportion of public companies have opted to hold the votes at the two- or three-year cadence permitted by Dodd-Frank.

As to the results of such votes, Table 2 below presents summary statistics on say-on-pay vote outcomes, calculated as the percentage of outstanding shares voted For, Against, and Abstain:[56]

Percentile	Vote For	Vote Against	Abstain
10th	40.1%	0.5%	0.04%
25th	55.9%	1.2%	0.12%
50th	70.6%	2.7%	0.34%
75th	80.5%	6.2%	0.87%
90th	86.5%	16.7%	2.24%

TABLE 2. SUMMARY STATISTICS: SAY-ON-PAY VOTING OUTCOMES, BY PERCENTILE

As Table 2 shows, the overwhelming majority of investors generally vote in favor in say-on-pay votes. Nevertheless, although Against votes are generally rare, further out in the distribution a substantial proportion of investors cast votes Against approving executives' pay.

I supplement these data with information on activist hedge fund interventions, including the announcement date of activist campaigns and the results of each campaign, from the SharkRepellent database.[57] And since activist behavior depends on a wide range of factors, and because I seek to isolate the effects of say-on-pay votes, I identify from the literature a wide

[55] The summary data in Table 1 are consistent with previous empirical work analyzing the results of say-on-frequency votes at U.S. public companies. Fabrizio Ferri & David Oesch, *Management Influence on Investors: Evidence from Shareholder Votes on the Frequency of Say on Pay*, 33 CONTEMP. ACCT. RSCH. 1337 (2016) (examining the influence of management recommendations on the outcome of say-on-frequency votes).

[56] To calculate the values in Table 2, I first sorted the For vote from high to low and computed the firm-level percentiles displayed. I then repeated the same process for the Against vote, and then for the Abstain vote.

[57] *See* SHARKREPELLENT.NET (last accessed January 2, 2021).

range of covariates known to be linked to activism and merge those variables with into my dataset.[58]

B. Setting

As noted above, Dodd Frank's say-on-pay mandate includes a unique provision allowing investors to choose how often say-on-pay votes occur. Specifically, the statute allows for the vote to be held every one, two, or three years. In this section, I explain that this choice, once made, is sticky: that is, it is costly to change, and thus changed exceptionally rarely. For that reason, the choice offers a plausibly exogenous setting in which to evaluate whether the occurrence of a say-on-pay vote increases the likelihood of activism.[59]

When Congress enacted Dodd-Frank, the SEC required firms to choose in 2011 whether to hold say-on-pay votes every one, two, or three years. But under SEC rules, once a public company has chosen a particular frequency, say-on-pay votes must be held at that cadence unless management proposes, and shareholders vote to approve, a different frequency.[60] So changing

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[58] In particular, I draw quarterly accounting-level data for all publicly traded firms from Compustat, complementing firm-level data with CRSP detail on stock prices and information on sell-side analysts who follow each stock, assembling the suite of covariates from the literature, *see* Appel et al., *supra* note 29; *see also* WHARTON RESEARCH DATA SERVICES, COMPUSTAT AND CENTER FOR RESEARCH ON SECURITY PRICES DATASETS (2020). Following Alon Brav, Wei Jiang & Hyunseob Kim, *Hedge Fund Activism: A Review*, 4 FOUND. TRENDS IN FIN. 1 (2010), I include the log of the firm's market capitalization, sales growth, return on assets, leverage, dividend yield, research and development, the standard measure of liquidity (*see* Yakhov Amihud, *Illiquidity and Stock Returns: Cross-Section and Time-Series Effects*, 5 J. FIN. MKTS. 31 (2002)), and the number of analysts covering the stock. Consistent with the previous literature, *see id.*, I also include Tobin's Q, notwithstanding its limitations, *see* Robert Bartlett & Frank Partnoy, *The Misuse of Tobin's Q*, 73 VAND. L. REV. 353 (2020). I also compute the level of institutional ownership at each firm, from which I additionally calculate the firm-level proportion of passive investors using the methods described in Appel et al., *supra* note 29. Finally, I winsorize these covariates at the 1% level to mitigate the effects of outliers. Further detail is provided in the Appendix.

[59] My approach employs a similar method to that used in important recent work by Emiliano Catan exploiting firms' sticky responses to a new voting policy adopted by Institutional Shareholder Services. *See* Emiliano M. Catan, *The Insignificance of Clear-Day Poison Pills*, 48 J. LEGAL STUD. 1 (2019).

[60] *See* SEC, Final Rule: Shareholder Approval of Executive Compensation and Golden Parachute Compensation, *supra* note 37, at 29 (imposing additional disclosure requirements for issuers seeking to change the frequency of the say-on-pay vote). While as a formal matter the outcome of the shareholder vote on frequency is not

the timing of say-on-pay votes is costly, requiring management to obtain separate shareholder approval.[61]

As a result, changes in the frequency with which public companies hold say-on-pay votes are, empirically, exceptionally rare. Of the 23,560 firm-years with a say-on-pay vote in my dataset, only 303, or 1.3%, involve switches of say-on-pay frequency. Even more rare is a firm that *lengthens* the frequency at which a say-on-pay vote must occur (that is, changing from voting annually to voting every three years). Of the 5,334 unique firms in my sample, only 37, or 0.7%, have reduced the frequency of say-on-pay voting.

Thus, at firms where say-on-pay votes are not held annually, the timing of such votes is plausibly exogenous to factors like the firm's performance. Put another way, at these firms the government has imposed a requirement that investors speak their minds at times that are quasi-randomly selected. Because switching the timing of the vote is costly, managers and activists alike must take the vote when it comes, rather than at the moment they might choose on the basis of factors endogenous to the appearance of an activist. Given that unique setting, in this Article I consider whether activists are more likely to strike after shareholders speak through this channel.

C. Results

In this section, I provide the first evidence that say-on-pay votes convey information to activist investors contemplating an intervention at U.S. public companies. Exploiting the unique

binding on the board of directors, *see, e.g.*, *id.* at 5, I am unaware of any case in which a board has chosen to hold say-on-pay votes at a different frequency than that approved by investors.

[61] If this were not the case, one might be concerned that a manager anticipating shareholder activism—or one of its determinants, such as poor performance—could select the timing of votes to reduce the likelihood of an activist attack. And although managers cannot see infinitely far into the future, one might be concerned that insiders will switch frequencies upon learning that an activist may be on the horizon. If either were true, this setting could not usefully identify a causal relationship between the existence of a say-on-pay vote and activism. But, for the reasons given in the text, the unique legal context of Dodd-Frank mitigates that concern, requiring firms to select the frequency of the vote far in advance and imposing costs on changing it. Hence, there is reason to think that the timing of the vote is uncorrelated with the other predictors of activism, such as poor firm-level performance.

setting in which say-on-pay votes occur—that is, at a frequency that firms choose in advance and is costly to change—I show that the occurrence of a periodic say-on-pay vote increases the likelihood of future activism. I then test implications of this finding, providing evidence that the results of the votes themselves cross-sectionally predict the likelihood of activism. Finally, I offer suggestive evidence of an increased probability of successful activist engagements following the enactment of the say-on-pay voting regime.

1. Say-on-Pay Votes and Activism. I begin by analyzing whether the occurrence of a periodic say-on-pay vote in a given year leads to an increased probability of activism in the subsequent year. To do so, I limit my sample to only those firms holding say-on-pay votes every two or three years.[62] I then code $Vote_{n,t}$ as equal to 1 if company n has held a say-on-pay vote in the year preceding time t, and 0 otherwise, and $Activism_{n,t}$ as a dummy variable equal to 1 if an activist targeted company n during time t and 0 otherwise. Then I code $Placebo_{n,t}$ which, during the decade preceding Dodd-Frank, is equal to 1 if extending the say-on-pay voting regime backwards in time for company n at its chosen frequency would mark time t as a "voting" year, and 0 otherwise.[63]

I then use an event study approach to test whether the occurrence of a vote predicts future activism. To do so, for the years after Dodd-Frank, I compare the average probability of an activist intervention in the year preceding a say-on-pay-vote, the year immediately following

[62] Because my identification strategy relies on a subset of public companies, there is reason to wonder whether the results described here are generalizable outside this sample. I explore this issue further in Section III.C.2; for present purposes, I note that some 14% of U.S. public companies hold a say-on-pay vote every two or three years, a sizeable set of companies, and that limitations like these are not uncommon in empirical literature in this area. *See, e.g.*, GUIDO W. IMBENS & JOSHUA D. ANGRIST, MOSTLY HARMLESS ECONOMETRICS (2008).

[63] For example, if a firm holds say-on-pay votes once every three years and a vote preceded the second quarter of 2011, for that firm I code that a placebo vote preceded the second quarter of 2008, the second quarter of 2005, and the second quarter of 2002 for purposes of the analysis described in Figure 1.

such a vote, and the subsequent year, and, for years before Dodd-Frank, in years preceding, immediately following, and subsequent to a placebo "vote." Figure 1 provides the results:

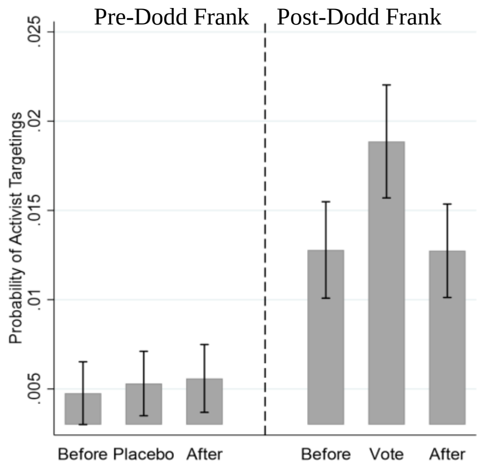

FIGURE 1. PROBABILITY OF ACTIVIST TARGETING BY VOTING (OR PLACEBO) OCCURRENCES

As Figure 1 shows, before Dodd-Frank, there was no meaningful difference in the probability of activism in years immediately following a "placebo" say-on-pay vote and in those either before or after such a "vote."[64] But after Dodd-Frank, the probability of an activist intervention was statistically significantly greater in years immediately following a periodic say-on-pay vote than in years preceding the vote or in subsequent years.

One reaction to Figure 1 might be to wonder about the economic significance of the change documented here; two responses warrant mentioning. First, a firm was approximately 36% more likely to be attacked by an activist in a quarter following a vote than in one not

[64] The vertical lines for each bar in Figure 1 display 95% confidence intervals for the average likelihood of activism for each group. As Figure 1 shows, before Dodd-Frank there is no statistically meaningful difference between the probability of activism immediately following a placebo "vote" and in preceding or subsequent years. By contrast, however, Figure 1 makes clear that after Dodd-Frank the emergence of an activist is statistically significantly different in years immediately following a say-on-pay vote than in years preceding the vote or subsequent years.

preceded by a vote—a meaningful jump in magnitude.[65] Second, as the literature points, out a significant proportion of the effects of activism arise from changes to management's *ex ante* behavior in light of the possibility that activists might intervene, so that even seemingly small changes in observed activist behavior can have substantial real-world effects.[66]

I further explore this result by estimating the following linear probability model:

$$Activism_{n,t} = \alpha + \beta_0 Vote_{n,t} + \varepsilon_{n,t}$$

Because the occurrence of a voting year is plausibly exogenous, concerns about comparisons between voting and non-voting years may be limited. But for completeness I include two different methods in order to mitigate concerns that the results are driven by improper comparisons between voting and non-voting years. First, I run the model using firm-fixed effects to control for any within-firm variation post Dodd-Frank in say-on-pay years. Next, I also employ a propensity score matching process. In particular, I match firm-quarters based on firm size, performance, industry, within three-year periods over the sample, in order to help ensure that the voting and non-voting periods being compared are as comparable as possible, and to help mitigate concerns related to time trends in the data.[67]

I first run these tests on the sample after the enactment of say-on-pay. Table 3 below presents the regression results, where model (1) reflects the analysis without matching or firm-fixed effects, model (2) uses firm-fixed effects, and model (3) uses the matched sample:

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[65] Across the full set of public companies in the United States, the baseline probability of an activist attack in a given quarter after the passage of Dodd-Frank was approximately 1.6%, so an increase in magnitude of roughly 0.5% is arguably meaningful in that context.

[66] *See, e.g.*, Nickolay Gantchev, Oleg Gredil, and Chotibhak Jotikasthira, *Governance Under the Gun: Spillover Effects of Hedge Fund Activism*, 23 REV. FIN. 6 (2019).

[67] In the Appendix, I give further detail on the propensity matching process, and also provide a balance test and a kernel density plot to show that the propensity score matching process created balanced groups.

	Activism During Quarter (1)	*Activism During Quarter* (2)	*Activism During Quarter* (3)
Dummy for Say-on-Pay Vote During Preceding Year	0.0053*** (0.0019)	0.0051*** (0.0019)	0.0048** (0.0023)
Firm-Fixed Effects	No	Yes	No
Matching	No	No	Yes
Observations	23,105	23,105	15,138

TABLE 3. SAY-ON-PAY VOTES AND ACTIVISM

Table 3 shows a statistically significant increase in the likelihood of activism during a quarter that follows a vote.[68] This difference exists, and holds steady at comparable magnitudes, for the specifications using firm-fixed effects and for the matched sample as well.

As an additional check, I run the same tests on the decade preceding Dodd Frank using the Placebo variable in place of a Vote. Table 4 describes the results:

	Activism During Quarter (1)	*Activism During Quarter* (2)	*Activism During Quarter* (3)
Dummy for Say-on-Pay Vote During Preceding Year	0.0007 (0.0011)	0.0008 (0.0011)	0.0008 (0.0018)
Firm-Fixed Effects	No	Yes	No
Matching	No	No	Yes
Observations	21,822	21,819	10,691

TABLE 4. PLACEBO VOTE AND ACTIVISM

As expected, Table 4 shows no results of our placebo on the likelihood of activism in the time before the enactment of say-on-pay. This helps address the possibility that these findings are driven by a secular trend over time.[69]

[68] I use the following indicators of statistical significance throughout: *** indicates $p < 0.01$, ** indicates $p < 0.05$, and * indicates $p < 0.10$. I cluster standard errors at the firm level.

[69] I acknowledge that, in the years following the passage of Dodd-Frank, we observe an increasing time trend in the total incidence of activism. However, to the degree that a say-on-pay vote being held in a given year is plausibly exogenous, this evidence reflects not a general time trend, but an effect with a cadence that matches the cadence of the say-on-pay vote.

To the degree that the choice of the cadence of say-on-pay votes is plausibly exogenous, Figure 1, and Tables 3 and 4, provide evidence that the occurrence of a say-on-pay vote has facilitated activism since Dodd-Frank became law. In the sections that follow, I consider the degree to which the outcome of that vote—that is, the expression of shareholders' views—predicts activism.

2. Vote outcomes and activism. In this section, I consider two potential implications of a causal relationship between a say-on-pay vote and an activist intervention.[70] First, I examine whether activists might gain information from the contents of the votes themselves. I also assess whether activists have more efficiently targeted firms for intervention in the years since Dodd-Frank, and its say-on-pay mandate, became law.

a. Say-on-pay votes as a predictor of activism. If say-on-pay votes offer activists meaningful information on shareholder sentiment, one would expect the outcomes of those votes to be related to the probability of future activism. I test that possibility here.

I begin by considering the full set of say-on-pay votes, including firms that hold such votes annually, every two years, every three years. I then compute the outcomes of each firm's say-on-pay votes. I use the Against vote as a potential sign of investor dissatisfaction with

[70] To be clear, I make no claim of causality related to this additional evidence. Instead, in light of the plausible evidence of a causal relationship between the occurrence of say-on-pay votes and activism presented *supra*, here I offer additional evidence that is consistent with that possibility.

incumbent management,[71] because such a vote requires investors to take an affirmative step: voting against a proposal that usually draws significant support.[72]

I then use a cross-sectional model to examine the predictive power of say-on-pay vote outcomes on the probability of a future activist intervention at a given firm.[73] For these tests, I estimate the following linear probability model:

$$ActivismAfter_{n,t} = \alpha + \beta_0 Against_{n,t} + \boldsymbol{\delta' X_{n,t}} + \varepsilon_{n,t}$$

where $Against_{n,t}$ is the percentage of outstanding shares voted Against in the say-on-pay vote at company *n* at time *t*, $ActivismAfter_{n,t}$ is a dummy variable equal to 1 if an activist targeted company *n* during the year immediately following the *Against* vote held at time *t* and 0 otherwise, $\boldsymbol{X_{n,t}}$ is a vector of company-level covariates, and $\varepsilon_{n,t}$ is the error term.

Because I am interested in the *marginal* predictive power of the say-on-pay vote outcome on whether an activist intervenes, the choice of control variables is especially important in this specification. Fortunately, a robust literature establishes the known determinants of hedge fund activism. Borrowing from that literature, I include a wide range of observables known to be

[71] As explained above, *see supra* at tbl.2, there is considerable variation in the level of the For vote, making it a relatively noisy gauge; because retail investors frequently fail to vote in matters such as say-on-pay, For votes may be different at two firms with otherwise similar levels of investor support for management if one of those firms has a meaningfully higher level of retail holders, complicating interpretation of the results. Institutional investors vote Abstain sufficiently rarely in this context that I focus on Against as a proxy of openness to an activist campaign.

[72] Although Against votes are generally rare in say-on-pay proposals, *see supra* at tbl.2, a meaningful number of shareholders vote Against say-on-pay proposals further out in the distribution. While at first blush the proportion of Against votes may seem trivial—even firms in the 90th percentile of Against votes have just 16.7% of votes cast Against—this degree of shareholder dissatisfaction may offer meaningful information to an activist contemplating a costly intervention. This view is consistent with regulatory analysis and academic literature arguing that, in light of public-company investors' well-understood rational apathy, even small proportions of shareholder votes may reflect meaningful information about investor sentiment. *See, e.g.*, SEC, Final Rule: Executive Compensation Disclosure, 57 Fed. Reg. 29,582, 29,582 & n.8 (July 2, 1992) (justifying rules requiring disclosure of executive pay in part because shareholder proposals on that subject drew support of more than 10%).

[73] While I use a linear regression model here for ease of interpretation, I include a probit model in the Appendix for completeness, which provides similar results.

determinants of activism as controls in this specification.[74] Table 5 below summarizes the regression results, where model (1) reflects a simpler cross-sectional analysis and model (2) includes the full set of controls:

	Dummy for Activist in Next Year (1)	*Dummy for Activist in Next Year* (2)
Proportion of Votes Against on Say-on-Pay	0.2488*** (0.0299)	0.2269*** (0.0344)
Controls?	No	Yes
Observations	20,486	16,134

TABLE 5. PREDICTIVE POWER OF SAY-ON-PAY VOTES ON FUTURE ACTIVISM

As Table 5 shows, there is a powerful link between the proportion of shareholders voting Against say-on-pay and the probability that an activist will intervene at the firm over the following year.[75] Indeed, even without controls, a one percentage point increase in Against votes predicts a 0.25% increase in activism.[76] That link is robust at 1% statistical significance on its own, as well as after including controls for known determinants of activism—and, importantly, the economic and statistical significance of that relationship is stable to a wide range of different specifications.[77]

Of course, one concern with the models described in Table 5 is the degree to which results may be driven by outliers. To address those concerns and provide a visualization of the

[74] In addition to the variables described *supra* at note 59, borrowing from Appel et al., *supra* note 29, I also identify the degree of passive ownership for each firm to mitigate concerns that cross-sectional results are driven by differences in that shareholder base.

[75] In the Appendix, I document time trends in the magnitude of the relationship between the Against vote and future activism that are consistent with the possibility that activists learn to rely on the outcome of the vote.

[76] See Section II.C.1, *supra*, for a discussion of the possible economic significance of coefficients of this magnitude.

[77] In particular, including the additional covariates does not substantially change the magnitude of the relationship between the Against vote and future activism, nor does it take away meaningfully from its statistical significance.

relationship documented in Table 5, Figure 2 divides the Against vote into deciles and graphs the average probability of future activism within each bin:

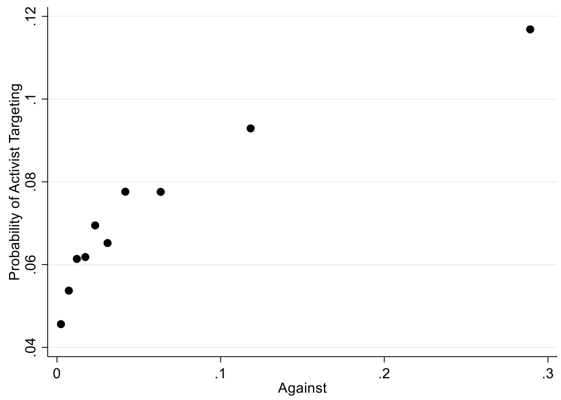

FIGURE 2. PROBABILITY OF ACTIVIST TARGETING BY DECILE OF VOTES AGAINST SAY-ON-PAY[78]

Figure 2 documents a monotonic relationship between the Against vote on say-on-pay and the probability that a firm will experience an activist intervention in the year immediately following the vote. That is: as the proportion of shareholders casting an Against vote on say-on-pay rises, the likelihood of an activist intervention similarly rises. That relationship has intuitive appeal: as the proportion of investors expressing dissatisfaction with incumbents rises, the likelihood that an activist will have sufficient shareholder support for an intervention also rises. Put another way, an activist contemplating a costly public-company engagement may be more likely to pursue that path in the presence of a sign that those investments will be rewarded with shareholder support.

To be sure, the simple correlation between Against votes and the probability of activism does not establish a causal relationship between say-on-pay votes and activist interventions.[79]

[78] To create Figure 2, I first grouped say-on-pay votes into ten buckets based on the proportion of shareholders voting Against say-on-pay at each firm in a given year. I then computed the average probability of activist targeting in the following year for all of the firm-years within each bucket. Although more extensive regression analysis is available in the Appendix, many observers may prefer a simple graphical description of the distribution. I thank my doctoral advisor Jake Thomas, and committee members Shyam Sunder and Frank Zhang, for their advice in creating Figure 2.

But the evidence is consistent with the possibility that activists examine the informational content of the say-on-pay vote when selecting public companies to target.

b. Evidence on activist efficiency. Another implication of the possibility that say-on-pay votes provide valuable information to activists is that the existence of those votes should improve activists' efficiency in choosing targets. That is: activists should achieve their desired outcomes at higher rates in a world with say-on-pay votes than without, because information gained by observing the voting process should help guide activists to engagements where activists have more investor support—and, hence, are more likely to yield those outcomes.

To test that possibility, I assemble additional data related to the results of activist engagements over time. As noted above, in connection with such engagements activists ordinarily seek representation on the company's board.[80] Although this is not the only result activists might pursue in a particular engagement, access to the corporate boardroom can be an especially valuable outcome for an activist.[81] Thus, I compute the probability by year, both before and after the passage of Dodd-Frank, that an activist engagement results in board representation.[82] Figure 3 below describes the results:

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[79] While the addition of the Against vote provides incremental predictive power to the existing models for predicting hedge fund activism in the literature, this does not establish a causal relationship between the outcome of the say-on-pay vote and activism.

[80] *See, e.g.*, Bebchuk et. al, *supra* note 28, at 1 (noting that "[a]n important milestone often reached in the life of an activist engagement is entering into a 'settlement' agreement between the activist and the target's board," pursuant to which the activist's chosen representatives are elected to the board).

[81] In previous work with Jack Coffee, Robert Jackson, and Joshua Mitts, I examine potential costs related to such settlements, including the possibility that an activist's position on the board affects the transmission of information from the boardroom to the stock market. *See* Coffee et al., *supra* note 28.

[82] Computing the probability that an activist engagement results in a settlement agreement produces similar results.

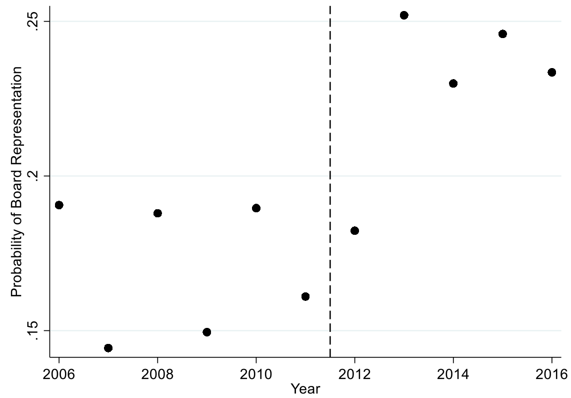

FIGURE 3. PROBABILITY THAT ACTIVIST ENGAGEMENTS RESULT IN BOARD REPRESENTATION, OVER TIME

As Figure 3 shows, activist hedge funds have had considerably more success in obtaining board representation in the years since say-on-pay votes have been required by law.[83] Of course, Figure 3 cannot and does not isolate the effects of say-on-pay votes from other trends that may have occurred simultaneously, including trends in the outcomes of activist engagements over time. But Figure 3 is consistent with the possibility that say-on-pay votes have improved the efficiency of hedge-fund activism.

In sum, although lawmakers appear to have given little consideration to this possibility, there is strong evidence that the say-on-pay votes mandated by the Dodd-Frank Act now provide activist hedge funds with a powerful sign of investors' openness to a dissident's intervention.[84] In the next Part, I consider implications of these findings for lawmakers and commentators concerned about corporate governance.

[83] As noted above, although the Dodd-Frank Act became law in 2010, SEC rules mandating the say-on-pay and say-on-frequency votes did not take effect until annual meetings occurring in 2011. SEC, Final Rule: Shareholder Approval of Executive Compensation and Golden Parachute Compensation, *supra* note 37, at 1.

[84] Of course, one may wonder whether public identification of this result will affect future investor behavior. For instance, shareholders who have not previously used the say-on-pay vote in this fashion may begin to do so. Or management may attempt to minimize dissent in say-on-pay votes in light of the risk that such dissent may draw activist attention. I intend to study the possibility of such effects in future work.

IV. POLICY IMPLICATIONS

My findings offer insights for professors, practitioners, and policymakers concerned about the balance of power between corporate managers and public-company investors. In particular, those weighing proposals to increase shareholder influence through voting mandates should consider the implications of possibly creating new and unanticipated channels for investors communication before adopting new rules. And recent debates on the regulation of hedge fund activists under federal securities law should also take account the communication facilitated by Dodd-Frank's say-on-pay mandate. In this Part, I consider each of these implications in turn.

A. Unintended Consequences of Shareholder Empowerment

Academic commentators concerned with the classic agency costs in public companies have increasingly argued that such problems can be addressed by mandating that shareholders vote on a range of subjects.[85] In particular, the prospect of providing shareholders with nonbinding votes—for which the cost to a shareholder (and management) of a controversial vote may be lower—reflecting their preferences on myriad matters has become an attractive alternative for federal policymakers.

To take just one example, the House of Representatives recently passed a bill that would require every U.S. public company to give shareholders an advisory vote on corporate spending on politics.[86] That proposal follows the law of the United Kingdom, which has mandated such

[85] The long literature on providing shareholders with this voice grew substantially after Delaware's determination to give corporate directors veto rights in the market for corporate control became clear. For seminal work on the limits of shareholder voting more generally, *compare* Jeffrey N. Gordon, *Shareholder Initiative: An Informal Social Choice and Game Theoretic Approach to Corporate Law*, 60 U. CIN. L. REV. 347 (1991) *with, e.g.*, Lucian Bebchuk, *The Case for Increasing Shareholder Power*, 118 HARV. L. REV. 833 (2005).

[86] *See, e.g.*, For the People Act of 2019, H.R. 1, 116th Cong. (March 8, 2019), Section 4502 (purporting to prohibit any publicly traded company from engaging in corporate political spending unless the issuer follows

votes for over a decade,[87] and academic arguments that such votes would address agency problems related to such spending.[88] Similarly, proposals to require public companies to give shareholders a vote on matters related to environmental or social questions continue to gain ground.

I take no position in this Article, of course, with respect to the desirability of such mandates.[89] But policy and academic debates on these subjects have not included a meaningful discussion of the possibility that, given the restrictions placed by securities law on communication among investors and the increasing reliance on activist hedge funds to enforce corporate governance norms, mandatory shareholder votes will be used by hedge fund activists as a sign of investor sentiment. Indeed, the SEC's final rules mandating the say-on-pay votes studied here—including more than 150 pages of analysis—make no mention of that possibility.[90]

In light of the evidence presented in this Article, commentators and lawmakers advocating for mandatory shareholder votes would do well to consider the role of such votes in providing signs of shareholder sentiment in a securities-law context that limits such communication. It may be, of course, that in light of that context, providing investors with an

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"procedures to assess the preferences of the shareholders of the issuer with respect to" such spending); *see also* Shareholder Protection Act of 2010, H.R. 4790, 111th Cong. (2010) (same).

[87] *See* Companies Act 2006, c. 7, § 366 (U.K.) (requiring shareholder authorization for corporations to make political donations).

[88] *See, e.g.*, Lucian A. Bebchuk & Robert J. Jackson, Jr., *Corporate Political Speech: Who Decides?*, 124 HARV. L. REV. 83, 98 (2010); *see also* Ciara Torres-Spelliscy, *Corporate Democracy from Say on Pay to Say on Politics*, 30 CONST. COMMEN. 431 (2015) (arguing that Dodd-Frank's say-on-pay mandated offers a legislative precedent for say-on-politics).

[89] Many who support such mandates might rejoice in the results identified here, viewing enhanced shareholder influence—including through activist hedge funds—as strictly desirable. For present purposes, I put those arguments to one side, instead arguing only that a complete analysis of such policies should include the possibility that the votes they produce will provide activist investors with signs of shareholder sentiment.

[90] SEC, Final Rule: Shareholder Approval of Executive Compensation and Golden Parachute Compensation, *supra* note 37.

alternative means of communication is viewed as an additional benefit. But neither Dodd-Frank's say-on-pay mandate, nor the other voting mandates now being considered by Congress, have been justified on that basis. Policymakers should consider these implications before adopting such mandates.

B. Securities Law Governing Activist Investors

Commentators and policymakers are now engaged in a lengthy debate on the federal law governing activist investors. In particular, since 1968 the Williams Act has required investors who acquire stakes of more than 5% in public companies to disclose, within 10 days, their position and any plans they have to pursue control of the firm.[91] The Dodd-Frank Act gave the SEC authority to shorten the ten-day window.[92] And a leading law firm has petitioned the Commission to reduce the ten-day period to one day, requiring activists who acquire more than 5% of a public company to disclose that fact within 24 hours.[93]

The Commission has shown interest in pursuing this change,[94] particularly in light of the contention that the Williams Act's regime was designed for a rather different technological

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[91] Pub. L. No. 90-439, 82 Stat. 454 (1968); *see also* SEC, Rule 13d-5(b)(1), 17 C.F.R. § 240.13d-5(b)(1) (2018).

[92] Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) § 929R (amending the Williams Act's ten-day disclosure rule to ten days "or within such shorter time as the Commission may establish by rule").

[93] Letter from Wachtell, Lipton, Rosen & Katz to Elizabeth M. Murphy, Secretary, U.S. Sec. & Exch. Comm'n (March 7, 2011), at 2 ("There is no valid policy-based or pragmatic reason that purchasers of significant ownership stakes in public companies should be permitted to hide their actions from other shareholders.").

[94] *See, e.g.*, SEC, Beneficial Ownership Requirements and Security-Based Swaps, Exchange Act Release No. 34-64628, 76 Fed. Reg. 34,579, 34,581 (2011); Ronald Oral, *SEC Eyes Faster Disclosure for Activist Funds*, CBSMARKETWATCH (2011) ("[T]he chief of the SEC's Office of Mergers and Acquisitions[has] said that she plans to recommend [that the SEC should] shorten the number of days activists investors have before they must publicly disclose they have a 5% stake in the company.").

period in capital markets.[95] In response, academic commentators have come forward to note that other legal changes since the Williams Act's adoption have been unfavorable to activist investors. In particular, these observers note, Delaware law now permits incumbent directors to use antitakeover measures such as the poison pill to thwart activist interventions.[96]

The broader debate over whether activist investors generate long-term value in modern capital markets—which in turn weighs on the optimal disclosure regime for such investors—is beyond the scope of this Article.[97] But consideration of that subject should include a complete accounting of legal changes that have affected the costs and benefits of waging an activist campaign. As this Article explains, in a securities-law landscape that imposes substantial costs on investor communication, Dodd-Frank's say-on-pay mandate provides a mechanism allowing activist investors to better understand firm-specific investor sentiment. Future debates about proposed changes to federal law governing activism should take account of that mechanism when evaluating such proposals.

V. CONCLUSION

Federal securities law has long been understood to impede communication among public-company investors. At the same time, activist investors who seek to hold corporate insiders accountable need support from other institutional investors in order to effect change. In a world

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[95] *See* Letter from Wachtell, Lipton, Rosen & Katz, *supra* note 93, at 3 ("The pragmatic reasons which may have motivated the inclusion of a ten-day reporting lag in the Williams Act are simply obsolete. Changes in technology, acquisition mechanics, and trading practices have given investors the ability to make these types of reports with very little preparation time.").

[96] *See, e.g.*, Bebchuk & Jackson, *supra* note 43, at 57 n.59 ("[S]tate law now allows companies to use poison pills selectively to disfavor some outside [investors] and to prohibit some shareholders—but not others—from holding stakes exceeding a specified threshold." (citing *Yucaipa Am. Alliance Fund II, LP* v. *Riggio*, 1 A.3d 310 (Del. Ch. 2010)); *but see* Kahan & Rock, *supra* note 48, at 965 (expressing skepticism about the legal validity of such measures).

[97] *Compare, e.g.*, Bebchuk et al., *supra* note 24 *with* Coffee & Palia, *supra* note 24; *see also* Martin Lipton, Wachtell, Lipton, Rosen & Katz, *Important Questions About Activist Hedge Funds*, HARV. L. SCH. F. CORP. GOV. (2013).

with few avenues for communication, mandates requiring investors to vote on particular subjects offer a plausible mechanism through which activists might assess shareholder sentiment. Yet the extensive academic, legislative, and regulatory analysis that produced Dodd-Frank's say-on-pay mandate, and proposals like it, gave little consideration to the implications of those mandates for shareholder communication.

In this Article, I offer evidence that the say-on-pay mandate does indeed provide activists with important signs of investors' openness to an intervention. Exploiting the unique setting introduced by Dodd-Frank, the Article provides plausible causal evidence that the mere occurrence of a say-on-pay vote increases the likelihood of an activist intervention in the subsequent year. The Article also shows the cross-sectional predictive power of the results of those votes, and provides suggestive evidence that the say-on-pay voting regime established by Dodd-Frank facilitates activist success. Intended or not, this consequence has important implications for contemporary corporate governance.

Finally, the Article describes implications of these findings for professors, practitioners, and policymakers. Those now advancing further federal shareholder-voting mandates as a means of empowering public-company investors should consider the investor communication consequences of such mandates when analyzing the desirability of those policies. Ongoing debates about the securities law governing activism should take account of the effects of Dodd-Frank's say-on-pay mandate on activists' work. And future analysis of shareholder voting as a solution to agency problems should consider the broader legal context in which such votes occur.

APPENDIX

In this Appendix, I first provide further detail on the data used to produce the results described in this Article. Then, I describe the results of additional empirical tests I have conducted to further explore the findings in the Article.

A. Data

I begin by drawing data on the outcomes of shareholder votes from Institutional Shareholder Services Voting Analytics.[98] I then compute the outcomes of each firm's say-on-pay votes—that is, the proportion voting For, Against, and Abstain.

In order to control for the wide range of factors on which activism depends, I compute covariates identified in the literature as predictive of activism.[99] I begin by downloading accounting-level data for all publicly traded firms from Compustat, complementing the firm-level data with CRSP detail on stock prices, information on sell-side analysts who follow each stock,[100] and information on institutional ownership from Thomson Reuters, cleaning that dataset using standard methods.[101] Using these data, I compute quarterly covariates identified in the literature as predictive of activism.

Specifically, I calculate Market value, *MV*, as the natural log of market capitalization. Return on assets, *ROA*, is calculated as income before extraordinary items divided by lagged assets. Institutional ownership, *INST*, is the percentage of outstanding shares held by institutional

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[98] *See* INSTITUTIONAL SHAREHOLDER SERVICES VOTING ANALYTICS DATABASE, *supra* note 53.

[99] For a summary of the literature identifying these variables, *see, e.g.*, Brav et al., *supra* note 58.

[100] WHARTON RESEARCH DATA SERVICES, COMPUSTAT AND CENTER FOR RESEARCH ON SECURITY PRICES DATASETS, *supra* note 58.

[101] This process involves adding holdings data for a number of asset managers known to be omitted from the Thomson Reuters database, aggregating holdings at the fund-family level, addressing missing data, and adjusting certain datapoints for errors, particularly with respect to shares outstanding. *See* Azar et al., *supra* note 21 (replication code available from the *Journal of Finance*).

investors. Passive ownership, *PASSIVE*, is the percentage of passive ownership in a firm. Leverage, *LEV*, is debt divided by the sum of debt and book value of equity. Dividend yield, *DIVYLD*, is the sum of the common dividend and the preferred dividend divided by the sum of the market value of common stock and the book value of the preferred. Research and development, *RND*, is the research and development cost divided by lagged assets. *Analyst* is the number of analysts covering a firm at year-end. *Q* is the sum of the book value of debt and the market value of equity divided by the sum of the book value of debt plus the book value of equity. Sales growth, *GROWTH*, is year-over-year quarterly sales growth. The Amihud illiquidity measure, *AMIHUD*, is the daily average over the quarter of the ratio of absolute stock return to dollar volume. I then winsorize these covariates at the 1% level to mitigate the effects of outliers.

Finally, I use the SharkRepellent database to draw my dependent variables.[102] Specifically, I draw variables specifying the announcement of an activist campaign and the results of that campaign from SharkRepellent.

B. Analysis

In this section, I present additional empirical tests further exploring the findings in the Article. I first provide details on the propensity score matching process used in Section III.C.1 to show that firms holding the say-on-pay vote only once every two or three years are more likely to be the target of activism in the year following a say-on-pay vote. Next, I show provide additional tests showing that the results of the say-on-pay votes cross-sectionally predict future activism, in accordance with the findings in Section III.C.2. Finally, I provide suggestive evidence that activists have learned over time to rely on the outcomes of the say-on-pay vote in identifying firms to target.

[102] *See* SHARKREPELLENT.NET, *supra* note 57.

1. Say-on-Pay Votes and Activism. In Section III.C.1 of the Article, I provide evidence that firms holding the say-on-pay vote only once every two or three years are more likely to be the target of activism in the year following a say-on-pay vote. To ensure that the treatment and control groups—that is, voting and non-voting years—in that analysis are truly comparable, I perform propensity score matching. In order to match on key characteristics, I match firm-quarters by size (as proxied for by the natural log of market capitalization), performance (as proxied for by return on assets), and industry, within three-year periods throughout the sample.

I begin by providing results of a covariate balance test, which shows that the sample is balanced between voting years and non-voting years. Table A1 describes the results of that test:

	Mean				
	Voting	Non-Voting	*%bias*	*t-statistic*	*p-value*
Market Capitalization	5.3369	5.3667	-1.5	-1.16	0.246
ROA	-0.0312	-0.0300	-0.8	-0.68	0.494

TABLE A1. PROPENSITY MATCHING BALANCE TEST[103]

As Table A1 shows, there are no statistically significantly different means among the groups. This provides some comfort that the voting and non-voting years being compared in the matched sample are well-balanced on the key characteristics of size and performance.

Second, I consider the density of the propensity score. Figure A1 below plots that density for both the treatment and control groups:

[103] I report t-statistics and p-values for simplicity of presentation and interpretation. In unreported analysis, I separately consider normalized differences. *See, e.g.*, Guido W. Imbens, *Matching Methods in Practice: Three Examples*, 50 J. HUM. RESOURCES 2 (2015).

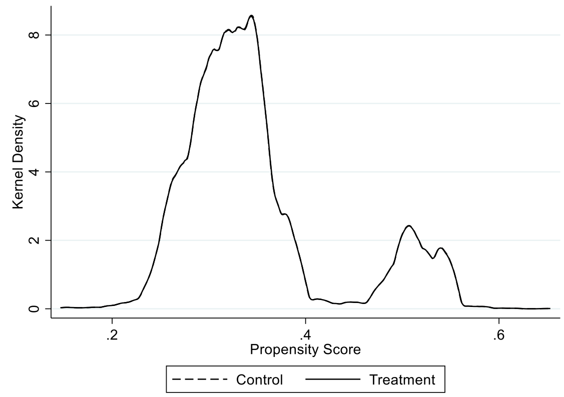

FIGURE A1. KERNEL DENSITY PLOT

As we see from Figure A1, the propensity scores appear nearly identical for both groups. This offers additional confidence that the matching process produced balanced groups.

2. Vote Outcomes and Activism. Section III.C.2 of the Article offers evidence that the outcomes of say-on-pay votes predict future activism. In this section, I provide additional tests regarding that finding.

Table 5 shows the results of regressing the probability of activism in the subsequent year against the proportion of votes Against say-on-pay. In the following table, I show those same results but display coefficients for several additional covariates:[104]

[104] While I run the regression with the full set of control variables described in Section A of the Appendix, I only highlight important covariates for presentation purposes. Notwithstanding the limitations of Tobin's Q in particular, *see* Bartlett & Partnoy, *supra* note 58, the results show that firms targeted by activists tend to be lower-valued firms, return less money to shareholders, have a higher institutional ownership base to whom activists may argue their case, and are followed by a larger number of analysts, who serve as a channel to discover and disseminate information on the firm to the market.

	Dummy for Activist in Next Year (1)	*Dummy for Activist in Next Year* (2)
Proportion of Votes Against on Say-on-Pay	0.2488*** (0.0299)	0.2269*** (0.0344)
Q		-0.0020*** (0.0005)
Dividend Yield		-1.9380*** (0.9358)
Institutional Ownership		0.0662*** (0.0154)
Number of Analysts		0.0016** (0.0006)
Controls?	No	Yes
Observations	20,486	16,134

TABLE A2. PREDICTIVE POWER OF SAY-ON-PAY VOTES ON FUTURE ACTIVISM

Table A2 offers further detail on the most meaningful covariates for purposes of evaluating the results in Table 5. For completeness, and acknowledging the difficulties in interpreting coefficient magnitudes in such models, I also present a probit model of those same tests:[105]

	Dummy for Activist in Next Year (1)	*Dummy for Activist in Next Year* (2)
Proportion of Votes Against on Say-on-Pay	1.3413*** (0.1316)	1.1483*** (0.1463)
Q		-0.0145*** (0.0032)
Dividend Yield		-16.1886* (9.5405)
Institutional Ownership		0.4422*** (0.0928)
Number of Analysts		0.0091** (0.0036)
Controls?	No	Yes
Observations	20,486	16,134

TABLE A3. PROBIT MODEL OF PREDICTIVE POWER OF SAY-ON-PAY VOTES ON FUTURE ACTIVISM

As we see in Table A3, a probit model produces qualitatively similar results consistent with activists using the outcomes of say-on-pay votes in selecting firms to target.

[105] Probit regression coefficients correspond to the change in the z-score following a one unit change in the independent variable, making interpretations of the coefficients in Table A3 particularly difficult. However, I present these results for readers who prefer the application of a probit model in this context in light of the potential limitations of linear probability models.

3. Time Trends in Investor Communication. If activists do, indeed, interpret say-on-pay votes as identifying firms with dissatisfied shareholders who might support a dissident view, one might ask: How did activists know how to use say-on-pay in such a way in the first place? One possibility is that activists have, over time, learned to interpret indications from this particular channel through experience.

To test that possibility, I divide my sample into three distinct time periods and re-estimate the linear probability model establishing the cross-sectional relationship between say-on-pay votes and activism. Table A4 below documents the growing nature of that relationship over time:

	Dummy for Activist in Next Year, 2011Q1-2013Q1 (1)	*Dummy for Activist in Next Year, 2013Q2-2015Q2* (2)	*Dummy for Activist in Next Year, 2015Q3-2017Q3* (3)
Proportion of Votes Against on Say-on-Pay	0.1414*** (0.0507)	0.2722*** (0.0526)	0.2784*** (0.0637)
Controls	Yes	Yes	Yes
Observations	4,702	6,622	4,810

TABLE A4. SAY-ON-PAY VOTES AND HEDGE-FUND ACTIVISM OVER TIME

Table A4 offers suggestive evidence that, to the degree say-on-pay votes tell activists that shareholders are open to an intervention, activists have learned to use that information over time. While we cannot reject the null hypothesis that the coefficients in the later two periods are larger than that in the first, the monotonic increase and relative leveling-off in the point estimates of the correlation between Against votes and activism over time is consistent with the possibility that activist investors have learned, over time, to rely on the outcomes of say-on-pay votes as an indication of shareholder sentiment.