

The Role of Advisory Services in Proxy Voting

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ABSTRACT

We study the information content and consequences of third-party voting advice issued during proxy contests. Focusing on recommendations by a leading proxy advisor, we find significant abnormal stock returns around the dates recommendations become public. The economic interpretation is that voting advice conveys new information to the market. To investigate the precise nature of this information, we develop a two-stage procedure for decomposing price changes in response to interim news about future events into two components: The price impact of revisions in outcome-contingent expected valuations and the price impact of updated outcome probabilities. Applying this decomposition to interim voting recommendations and the subsequent contest outcomes, we find a robust statistical association between recommendations and contest outcome probabilities after controlling for contest characteristics, voting rules, and ownership levels of dissidents and incumbents. We also find evidence that advisory recommendations play a certification role by conveying information to investors about outcome-contingent stock valuations. The implication of our findings is that proxy advice plays a dual informational role, serving both to certify the relative quality of competing management teams and to help predict contest outcomes.

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THE ROLE OF ADVISORY SERVICES IN PROXY VOTING

1. INTRODUCTION

Proxy voting is a major corporate activity. During the 2005 U.S. proxy season, over 299 billion shares were voted to elect 35,283 individual directors, ratify 3,300 auditors, adopt 2,293 compensation plans, and approve 340 M&A transactions and a large number of internal governance proposals.² Most proxy votes are cast by mutual funds and other institutional investors, which collectively hold over two-thirds of the voting shares in the United States. Given the prominent role played by institutional investors in proxy voting, the effectiveness of the proxy mechanism depends largely on whether it can overcome potential agency problems so that votes are cast in an informed, objective manner.³

A striking development in recent years has been the rapid growth in institutional investors' use of voting services provided by proxy advisors. These third-party advisors supply clients with background research, explicit voting recommendations, and other services on a range of corporate voting issues. The perceived importance of proxy advice is illustrated by the \$19 billion merger of Hewlett-Packard Co. (HP) with Compaq Computer Corp. in 2002. After an acrimonious, extended proxy fight waged by board member Walter Hewlett in opposition to the merger, shareholders of HP narrowly approved the merger by 51.4% to 48.6%. Observers largely credited the favorable recommendation of Institutional Shareholder Services (ISS), a leading proxy advisory service, with turning the tide in favor of the controversial merger proposal. As one analyst said of the ISS decision, "If it had gone the other way, the deal would have been dead. Now, it's a horse race."⁴

Despite anecdotal evidence that third-party advisors wield considerable influence in specific cases, there is little formal research on proxy advice. This is particularly true for

² *2005 Proxy Season: Key Statistics & Performance Ratings*, ADP Investor Communication Services.

³ Prior research has identified a number of potential factors that might prevent institutions from voting in the collective interests of investors. For example, when corporate ownership is widely dispersed, the private cost to a shareholder of informed voting is likely to be large relative to the private benefit. Also, investors who are dissatisfied with a firm's management may sell their shares—i.e., follow the "Wall Street Rule"—rather than holding and voting them (Parrino, Sias, and Starks (2003)). Finally, mutual funds that manage the pension plans of corporate clients in which they invest may face a potential conflict of interest in voting their shares (Davis and Kim (2005)).

⁴ *BusinessWeek*, March 18, 2002, p. 62.

non-routine, contested elections, where the information that vote recommendations bring to the market and the influence that they have on voting outcomes are potentially greatest.⁵ Understanding the role of proxy advice in contested votes is relevant to the broader issue of whether proxy advice represents an efficient market solution to agency and coordination problems in voting or whether, instead, it is a source of additional agency costs and inefficiencies to be borne by investors.⁶

The goal of this paper is to examine empirically the economic role of third-party proxy advice in corporate proxy voting. Our sample specifically consists of recommendations issued by the leading advisory firm, Institutional Shareholder Services, during proxy contests waged from 1992 to 2005. We focus on proxy contests – in which a dissident actively and formally solicits votes to oppose incumbent management⁷ – because such contentious situations are a natural setting in which to investigate the informational impact and consequences of proxy advice. Indeed, while most corporate proxy votes are routine and do not pose a material threat to management, proxy contests represent instances in which shareholders tend to face considerable uncertainty about a consequential outcome.

Our study provides the first systematic evidence on two basic questions concerning the proxy advisor's economic role in contest situations. First, do vote recommendations convey information that affects stock prices? Second, if vote recommendations do convey information, what is the precise nature of that information? To answer the second question, we examine whether vote recommendations are good statistical predictors of contest

⁵ Exceptions that arise in the case of non-contested elections include Bethel and Gillan (2002), which presents evidence on the effects of ISS recommendations on votes for routine, non-contest proposals (i.e., proposals contained in management's proxy statement, rather than in a dissident proxy statement). The evidence from more recent studies of non-contested director elections also documents a positive relation between the ISS recommendation and the vote. See Cai, Garner and Walkling (2008) and Choi, Fisch and Kahan (2008). In an empirical analysis of the non-contested vote outcome, Choi, Fisch and Kahan report that the recommendation has little or no explanatory power at the margin after other factors are taken into account.

⁶ Berman and Lublin (2006) illustrate the substantial value associated with proxy advice in the context of the recent acquisition of ISS. In September 2006, ISS placed itself on the market with an asking price of \$500 million. The move elicited 19 bids and resulted in an eventual sale of the company to RiskMetrics for approximately \$550 million. .

⁷ The term "proxy contest" is not formally defined in the federal securities laws, although regulations under those laws define a "solicitation in opposition" of the incumbent management and require special disclosures by the dissident and the incumbent whenever such a solicitation occurs. For our purposes, a "proxy contest" is taken to be an instance in which a dissident distributes its own proxy statement to investors to solicit votes rather than simply campaigning in favor of a shareholder proposal that has been added to the company's own proxy materials.

outcomes, and also the extent to which recommendations convey objective information about the relative merits of competing ballot proposals.

Our empirical findings suggest that voting recommendations do convey new information to the market and that the price impact depends on the direction of the recommendation. Consistent with market efficiency, the unconditional average return around a recommendation is not statistically different from zero. However, recommendations that favor dissidents are accompanied by a positive cumulative average abnormal return of 1.92 percent, while pro-management recommendations lead to a slightly negative cumulative average abnormal return of -0.20. The difference in return is even larger for contests related to board elections. Thus, the market seems to view proxy advice favoring challengers as positive news for shareholders.

One natural interpretation of the differential stock price response is that a recommendation for (against) the dissident reinforces (weakens) the perception that the dissident would be an improvement over incumbent management. However, an alternative interpretation is that the market routinely believes that dissidents are better on average and that, rather than providing any new objective information about the two sides in the contest, a recommendation helps market participants to predict the outcome of a contest.

In our empirical analysis, we investigate two hypotheses about the information content of advisory recommendations. The first ascribes a predictive role to vote recommendations. Under the *prediction hypothesis*, voting recommendations lead investors to revise their beliefs about the likely outcomes of proxy contests. In particular, recommendations could have a direct causal influence on shareholders' voting behavior (e.g., by providing voters with persuasive supportive evidence, or simply by acting as a default decision or a coordination device), or they may simply be good leading, but non-causal, statistical predictors of the outcome.⁸ Our second hypothesis is the *certification hypothesis* which holds that voting recommendations are informative about the objective merits of dissidents

⁸ Proxy advisors do not claim to predict contest outcomes per se, but rather claim to provide objective advice on which side is more aligned with shareholder interests. However, even in the absence of any causal influence on shareholder voting, recommendations can still increase the predictive power in our outcome forecasting probit regressions if they are correlated with other publicly known but omitted explanatory variables.

and incumbent management. Under this view, recommendations can help investors to learn about how much value each side in a contest can bring to the firm, rather than simply how likely each side is to win. Note that the two hypotheses—prediction and certification—are not mutually exclusive. Indeed, if proxy advice does provide objective information about contingent firm valuations, we would also expect it to influence voting and outcome probabilities to some degree. However, the prediction and certification hypotheses do highlight distinct channels by which proxy advice can bring information to the market.

To investigate the two informational hypotheses, we analyze contest outcomes, recommendations, and stock-price movements around recommendations and outcomes. We find evidence that strongly supports the prediction hypothesis. Specifically, the results show that the direction of vote recommendations has substantial predictive power for contest outcomes. This finding is robust to different econometric specifications and persists after controlling for other factors that may plausibly explain observed outcomes, such as contest characteristics, voting rules, and ownership levels of incumbents and dissidents.

Testing for certification is more difficult than testing for prediction. It requires disentangling outcome-contingent valuation information in proxy recommendations from the price impact of updated outcome probability beliefs. We develop a statistical methodology which does this. Using this approach to control for the impact of proxy recommendations on contest outcome probabilities, we obtain parameter estimates in a simple model of certification that allows for both dissident and management certification effects. The parameter estimates provide some evidence consistent with a certification effect, i.e., vote recommendations seem to convey useful information to market participants about outcome-conditional values.

While our analysis focuses on proxy advice and corporate voting, the underlying statistical inference problem is much more general. Given *interim news* about a future event – that is, preliminary or incomplete news in advance of resolution of the final outcome – we want to distinguish outcome-contingent valuation information in the interim news from probabilistic information. Consequently, our empirical methodology is of independent

interest and can potentially be applied to other types of corporate news and events beyond the specific setting of contested proxy voting.⁹

Our results complement previous empirical research on proxy contests and proxy voting. These studies include a number of papers investigating shareholder value implications of proxy contests (DeAngelo and DeAngelo (1989), Dodd and Warner (1983), Pound (1989), Ikenberry and Lakonishok (1992), Mulherin and Poulsen (1998)). Another strand of the literature examines the economic determinants of voting outcomes in proxy contests or in general corporate voting (Brickley, Lease, and Smith (1988); Pound (1988); Gordon and Pound (1993); Bethel and Gillan (2002); Maug and Rydqvist (2005), Cai, Garner and Walkling (2007), Choi, Fisch and Kahan (2008)). The previous studies of proxy contests largely focus on the vote resolution date, or the period thereafter, as the key time window during which critical information is revealed. Our work highlights the fact that proxy advice may disseminate information relevant to contest outcomes in the market well before a vote actually takes place. Previous research specifically on proxy advice has focused on routine, uncontested shareholder elections, rather than the contested elections (that are the focus here) in which the impact of advice is likely to be more significant.

More generally, our findings on the informational role of proxy advice have implications for the ability of the proxy voting mechanism to allocate control among rival management teams. A well-established body of work shows how agency and free-rider problems in corporate voting can lead to inefficient contest outcomes (Manne (1964), Easterbrook and Fischel (1983), Grossman and Hart (1980, 1988) and Harris and Raviv (1988)). Recent work shows how market institutions, such as the equity-loan market, can mitigate inefficiencies in corporate voting by reducing costly informational problems (Christoffersen et al. (2007)). Our evidence suggests that proxy advice may represent another market development that can facilitate information aggregation in corporate voting.

⁹ Some examples of other possible applications are rumors and subsequent tender offers or board/management shake-ups and subsequent strategic initiatives.

Our certification tests are related to Bhagat and Jefferis (1991) and Betton and Eckbo (2000), who also employ estimates of outcome probabilities in their work on voting on proxy proposals. However, our approach differs in that we use estimated changes in outcome probabilities to explicitly identify the certification effect of recommendations on outcome-conditional valuations.

Finally, the results have practical implications for the role of proxy advice in corporate governance. Concerns have been voiced in the previous literature that a possible pro-management bias in third-party proxy advice might prevent the recommendations from being useful to investors – in helping to predict vote outcome or in evaluating the relative merits of the competing outcomes. Our evidence regarding the price impact, predictive content, and certification effect of vote recommendations suggests that recommendations do provide useful information and that conflicts of interest are not the sole determinant of this advising activity.

The rest of the paper is organized as follows. Section 2 provides some institutional background on proxy advisors and the market for their services. To clarify the intuition behind our empirical hypotheses and tests, Section 3 presents a simple economic model of stock price formation around the delivery of a vote recommendation in the proxy context. Section 4 describes the data used in the empirical investigation, focusing on the compilation of contests and recommendations for the leading advisory service, ISS, over the study period. Section 5 presents our evidence on the stock price reaction to vote recommendations. In Section 6, we present the results of our multivariate analysis examining the prediction and certification hypotheses. Section 7 concludes.

2. INSTITUTIONAL BACKGROUND: ADVISORY SERVICES IN PROXY VOTING

New securities rules adopted in 2003 underscore the fiduciary duty of institutional investors with respect to proxy voting. These rules obligate funds to disclose publicly how they vote on corporate ballots and require funds to adopt written policies and procedures to help ensure that proxies are voted in the best interests of clients.¹⁰ For large, highly

¹⁰ See “Final Rule: Proxy Voting by Investment Advisers” (File No. s7-38-02). The new rule, along with the SEC’s No-Action Letter to Egan-Jones Proxy Services on May 27, 2004, explicitly recognizes the role that

diversified mutual funds, the costs of directly collecting information in-house and voting appropriately for every company in their portfolio may be substantial. Thus, it is not surprising that many of the largest and most visible institutional investors in the U.S., including Fidelity, T. Rowe Price, Janus, TIAA-CREF, and CalPERS, rely, in part, on research and recommendations provided by third-party proxy advisory firms.

While recent regulatory developments may have strengthened the demand for proxy advisory services, the market for such services is not new. The history of advisory services dates back to the founding of the nonprofit Investor Responsibility Research Center (IRRC) in the early 1970s. IRRC provided independent research analysis but not recommendations, focusing on social issues, such as were associated with the offshore operation of U.S. businesses. With the passage of ERISA in 1974, the Department of Labor (DOL) began enforcing a requirement that pension fund fiduciaries act solely in the interest of pension plan participants and beneficiaries. This duty applies to the voting of pension fund stock, as was made clear by interpretative guidance that the DOL issued in 1988 and refined through subsequent releases.¹¹

Demand for third-party voting advice grew markedly in the 1980's. Over time, proxy vote recommendation services began to be offered commercially to institutional investors. Among the early providers of proxy vote advisory services were Proxy Monitor Inc., founded in 1984, and Institutional Shareholder Services (ISS), founded in 1985. The research reports issued by these firms covered a wide range of corporate election items, including routine management proposals, shareholder proposals, and contested director elections. The businesses grew rapidly throughout the 1990s as companies expanded their institutional clienteles. In July 2001, ISS merged with Proxy Monitor, leading to a single set of widely-used proxy recommendations in the market (Sidel (2001)). More recently, institutional investors have had other alternative providers from which to obtain proxy

third-party proxy advice may play in mitigating conflicts of interest in fund voting. In particular, the rule provides that an investment adviser could demonstrate that a vote was not the product of a conflict of interest if in accordance with a pre-determined policy, the vote was made based upon the recommendations of an independent third party. These rules are adopted under the Investment Advisers Act of 1940 and reflect an understanding that mutual funds and other institutional investors are fiduciaries with respect to all services conducted on behalf of clients, including proxy voting.

¹¹ See Letter from Deputy Assistant Secretary of Labor Alan Lebowitz to Helmuth Fandl, Avon Products, Inc., February 23 1988. This "Avon Letter" indicated that shareholder voting rights are plan assets under ERISA, and that related fiduciary duties thus apply to voting of stock.

advice in addition to ISS. Egan-Jones Proxy Services and Glass Lewis & Co. began offering proxy recommendations commercially in 2003, and Proxy Governance Inc. entered the market in 2005.

For each of these proxy advisors, the core business consists of providing institutional investors with vote recommendations on a subscription basis. A vote recommendation is typically made as part of a written research report compiled by one or more analysts. Usually, proxy research reports are distributed only to institutional clients and are not immediately available to the wider public.¹² However, in high-profile proxy contests, one or both sides will frequently issue public press releases announcing the details of proxy advisors' recommendations.

The proxy advisors do differ along some dimensions. First, there is differentiation in the nature and scope of ancillary services that are bundled with the advisory recommendations. While all of the advisors provide automated vote execution, recordkeeping, and reporting services, ISS and Egan-Jones also provide quantitative assessments of corporate governance quality alongside voting reports and recommendations.¹³ Second, the services have differed in the sources of information that they use to formulate recommendations. For example, ISS and Glass Lewis often host public conference calls at which opposing sides in proxy contests can present their arguments to institutions. Also, when recommending on routine or non-contest items, the largest advisors adhere to pre-specified voting policy guidelines. Proxy Governance, in contrast, reportedly evaluates all election items on a case-by-case basis. Third, the different providers have different overall business models. ISS, in addition to providing institutions with proxy services, has provided advice and related services to corporations to help them assess and improve their corporate governance practices.¹⁴ Egan-Jones is affiliated with Egan-Jones Ratings Co., a credit rating agency that issues for-profit debt ratings. Glass Lewis and Proxy Governance

¹² For example, Investext, a large database containing roughly 2 million company and industry research reports, carries only a fraction of the reports produced by the largest of the vote advisory services.

¹³ ISS has included its proprietary Corporate Governance Quotient score in many of its published research reports. Egan-Jones' reports include grades on several key governance characteristics, such as board independence and financial performance.

¹⁴ To help reduce potential conflicts of interest between the two businesses, ISS maintains separate staffs, office equipment, and databases for the two operations. In June 2006, to further address potential conflicts of interest between the two businesses that could compromise the objectivity of vote recommendations, ISS spun off its corporate services into a new, separately incorporated subsidiary.

do not sell consulting or credit rating services to corporations, and, thus, purport to be freer of potential conflicts of interest.

Historically and currently, the largest proxy advisor is ISS. According to the company's website, <http://www.issproxy.com>, as of July 2006 ISS maintained research coverage on 35,196 companies (including all companies in the Russell 3000 index) for the benefit of 1,667 institutional subscribers that control assets totaling over \$25 trillion.¹⁵ It is natural, therefore, to investigate the economics of proxy advice by first studying Institutional Shareholder Services as the largest and most prominent proxy advisor. Although ISS was acquired by RiskMetrics at the end of 2006 and the ISS brand was replaced by RiskMetrics, we refer to the company as ISS since that was its name historically during our sample period.

3. A MODEL OF STOCK PRICES AND PROXY VOTE RECOMMENDATIONS

This section develops a simple model of stock price determination during proxy contests. This framework guides our empirical analysis of recommendations. However, the model and, more importantly, the estimation strategy developed in Section 6.2.1 can be generalized to be used generically in any situation in which prices respond to *interim news* containing both probabilistic information (i.e., about the likelihood of various possible outcomes) and outcome-contingent valuation information (i.e., about how good are various alternatives) about future events. By “interim news” we mean early and incomplete information about future events before the ultimate outcomes are determined. The distinction between probability and outcome-contingent valuation information in interim news applies to most news about future corporate events. For example, the interim news might be a rumor of a possible tender offer (which updates the perceived probability of the tender offer and what control premium will be offered), or a status report about ongoing R&D (which causes a revision in beliefs about how likely will be a new product based on the research or how good such a product would be), or a board or management shake-up (which conveys information about whether a firm will experience a major change in strategic direction and what the value implications of such a change would be).

¹⁵ While exact market-share figures for the newer entrants appear to be less readily available, evidence suggests that these advisors have also grown rapidly over the past few years. For instance, Glass Lewis, the second-largest proxy advisor, was reported to have about 200 clients in June 2006 (Hershey (2006)).

Consider a firm that is the target of a proxy contest launched by a dissident shareholder group in opposition to the company's incumbent management. The contest outcome will be determined, at the margin, by the votes of one or more shareholders who are pivotal voters. We distinguish these pivotal voters from the marginal investor who determines the market-clearing stock price in the financial market. For simplicity, we assume the marginal investor is risk-neutral with respect to uncertainty about the final outcome of the contest. Under the additional simplifying assumption that the discount rate is zero, the equilibrium share price at a generic date t is

$$(1) \quad p_t = \pi_t D_t + (1 - \pi_t) M_t$$

where π_t is the date- t perceived probability of a dissident victory and D_t and M_t are the outcome-contingent per-share expected valuations conditional on victory by the dissident and incumbent management, respectively.¹⁶

We assume that third-party voting advice, denoted by A , becomes known to the public on date t_A . The advice takes one of two values: either it favors the dissident (A^D) or it favors the incumbent management (A^M). The advice potentially affects the marginal investor's assessment of both the outcome-conditional per-share valuations and the dissident-win probability. Specifically, we assume that the marginal investor's updated probability belief at date t_A (after A is publicly known) changes relative to her probability belief at date $t_A - 1$ (before A is known) as follows:

$$(2) \quad \pi_{t_A} = \pi_{t_A-1} + g^\pi(A) + \eta_{t_A}^\pi,$$

where $\eta_{t_A}^\pi$ is a concurrent probability shock unrelated to A . The corresponding updated conditional per-share valuations are

¹⁶ Note that the contest outcome will generally be uncertain so long as the pivotal voter's decision is not guaranteed to coincide with what the marginal shareholder perceives to be value maximizing. Such might be the case if, for example, voters are heterogeneously informed, if information collection is costly, or if conflicts of interest exist in the voting process that cause distortions away from value maximization.

$$(3) \quad D_{tA} = D_{tA-1} + g^D(A) + \eta_{tA}^D$$

$$(4) \quad M_{tA} = M_{tA-1} + g^M(A) + \eta_{tA}^M.$$

The functions $g^\pi(A)$, $g^D(A)$, and $g^M(A)$ represent the impact¹⁷ of A on the marginal investor's beliefs, and η_{tA}^D , and η_{tA}^M are other normally distributed, mean-zero, independent informational shocks that arrive between t_{A-1} and t_A .

Given the investor's updated beliefs, the observed stock price change over the time window $[t_{A-1}, t_A]$, which includes the time that the recommendation A becomes public, is

$$(5) \quad \begin{aligned} p_{tA} - p_{tA-1} = & (1 - \pi_{tA-1})[g^M(A) + \eta_{tA}^M] + \pi_{tA-1}[g^D(A) + \eta_{tA}^D] \\ & + [g^\pi(A) + \eta_{tA}^\pi](D_{tA-1} - M_{tA-1}) \\ & + [g^\pi(A) + \eta_{tA}^\pi](g^D(A) - g^M(A) + \eta_{tA}^D - \eta_{tA}^M). \end{aligned}$$

This simple framework lets us formulate two distinct hypotheses regarding the impact of voting recommendations on stock prices. First, the *prediction hypothesis* is that a recommendation for the dissident increases the perceived probability of a dissident win, and vice versa for a recommendation for the incumbent. Such an effect might arise if the advisor's recommendation A is simply a useful statistical predictor of contest outcomes for the marginal investor or, alternatively, if it actually influences outcomes by modifying the pivotal voters' behavior. In either case, a pro-dissident recommendation increases π_{tA} above what it would otherwise have been given a pro-management recommendation. In terms of the above model, the outcome prediction hypothesis posits that $g^\pi(A^D) > 0$ whereas $g^\pi(A^M) < 0$.

The *certification hypothesis* is that a pro-dissident recommendation causes the marginal investor to update favorably his conditional assessment of the stock valuation that would

¹⁷ We abstract from information in the timing of recommendations. In practice, ISS recommendations exhibit only slight variation in their timing with respect to scheduled votes at annual shareholder meetings. Most ISS recommendations are issued between one to two weeks prior to the annual meetings.

result in case of a dissident win. Likewise, a pro-management recommendation increases the marginal investor's expectation of the stock value conditional on a management victory. Under the most straightforward version of this hypothesis, we have $g^D(A^D) > 0 > g^D(A^M)$ (dissident certification) and $g^M(A^M) > 0 > g^M(A^D)$ (management certification). If certification effects are absent, then $g^D(A) = g^M(A) = 0$.

The two hypotheses are not mutually exclusive. News of a recommendation favoring the dissident could, for example, cause all investors to anticipate a higher value of the firm under the dissident, and, thus, cause some investors to change their votes so that they favor the dissident. If such a link between certification and voting behavior is recognized by investors, news of a pro-dissident recommendation would affect an investor's beliefs both about the relative quality of the dissident (certification) and about the dissident's probability of winning the contest (prediction). Nevertheless, the certification and prediction hypotheses represent two distinct mechanisms through which proxy advice can affect stock prices. Our empirical tests in Section 6 accordingly seek to disentangle the two effects to shed light on the nature of the information that proxy advice brings to the market.

4. DATA

The proxy and recommendation data in this study were hand-collected from multiple data sources. Our initial sample consists of all proxy voting episodes in the SEC's EDGAR database that resulted in a Form DEFC14A filing (definitive proxy statement for contested solicitation) during 1992-2005. When dissidents initiate a contested proxy solicitation, both companies and dissidents must file DEFC14A forms (rather than the standard DEF14A proxy statements) to indicate that the vote is contested. From the collection of all DEFC14A filings made over 1992-2005, we eliminate duplicate filings, amended filings, and filings for firms that were not listed in the Center for Research on Securities Prices (CRSP) database as of the filing date. Also, when filings occurred for multiple voting episodes at a single company in the same year, we retain only the earliest one. Altogether, there were 377 proxy voting episodes with DEFC14A filings involving CRSP-listed firms during 1992-2005.

Next, we read the individual DEFC14A filings to determine if a voting episode was in fact a contested situation in which proxy advice might play a substantive role. This leads us to exclude the following episodes: 4 cases in which management filed a DEFC14A but the dissident did not; 12 cases in which the dissident was using the DEFC14A to propose only non-binding shareholder resolutions; 9 cases in which the dissident filed his or her proxy statement less than one week before the scheduled vote; and 10 cases in which the DEFC14A either pertained to a solely procedural issue (e.g., whether or not to delay an annual meeting) or was a mislabeled DEF 14A (uncontested) proxy statement. After imposing these screens, we are left with an overall sample of 342 contested voting situations.

For each contest in our overall sample, we attempt to ascertain the existence and direction of a vote recommendation, if any, issued by ISS. Our primary source of data on ISS vote recommendations is ISS itself. Senior representatives at the ISS headquarters office in Rockville, MD provided us with proxy research reports from their archives that pertained to “contested” voting situations. Each report contains an issue-by-issue summary of ISS’s vote recommendations as well as a description of the contest background and a detailed analysis of the firm’s corporate governance characteristics, including ownership levels, compensation, board structure, and antitakeover provisions. The reports furnished to us by ISS cover recommendations at 89 out of the 342 contests in our sample.

Since our definition of a “contest” differs from ISS’s definition, a number of episodes in our sample could not be readily retrieved from ISS’s archives. Therefore, we turn to other sources. First, we obtained electronic copies of an additional 72 reports from LexisNexis and from the Investext Plus database. Second, for each contest in our sample, we search the Dow Jones Factiva and LexisNexis News databases for news stories, newswires, and company releases that publicly announce ISS recommendations. Specifically, we perform keyword searches to identify all news items published within a year of the DEFC14A filing date that mention “Institutional Shareholder Services” or “ISS” in conjunction with

the name of the firm. From these news items, we are able to determine ISS vote recommendations for 186 contests in our contest universe.¹⁸

Our final sample consists of 236 recommendations for 236 distinct episodes in our overall sample of contested voting. Of these, we have a news announcement but no ISS research report for 75; an ISS report but no news announcement for 50; and both an ISS report and a news announcement for 111. We are missing both reports and news announcements for 106 contests. However, upon reading further news articles, we find that a substantial number of these “missing contests” were resolved via negotiated settlements between dissidents and management, and these settlements were announced well in advance of when ISS typically issues reports. Therefore, in many of these negotiated outcomes, ISS recommendations would not have played a substantive informational role. We also note that the average stock market capitalization of firms with no recommendations (\$1.36 billion) is well below that of the firms for which we do have recommendations (\$2.79 billion). Hence, it seems likely that ISS never issued recommendations for some of the smaller firms, particularly during the earlier part of sample in which its coverage was less complete than it currently is. Based on this reasoning, we conclude that our sample of ISS recommendations in contested situations is fairly comprehensive.

We read news articles, ISS reports, and dissident proxy filings for each proxy contest in our sample to determine relevant background details, including whether the dissident was seeking board representation, whether there was an outstanding takeover bid by the dissident, and whether other election items were being proposed. We supplement this information with stock price data from CRSP, institutional holdings data from CDA/Spectrum 13f, and SIC codes from EDGAR. Other information, including dissident and management ownership, voting rules, internal governance arrangements, and miscellaneous contest characteristics, are obtained from proxy filings and other SEC filings.

¹⁸We also searched the Dow Jones Factiva and LexisNexis News databases for vote recommendations issued by competing proxy advisory services, including Glass, Lewis, & Co., Egan-Jones Proxy Services, and Proxy Governance Inc. As discussed in Section 2, these competitors did not enter the industry until 2003 or later. Our search yielded only 22 contests over the sample period for which a news article mentioned a vote recommendation from one or more of these three proxy advisors. For the purposes of the present study, we focus on recommendations made by ISS.

Our empirical research design requires meaningful binary classifications of vote recommendations and contest outcomes. Since vote contests and recommendations usually involve multiple election items, we employ the following scheme: a recommendation is considered pro-dissident if ISS endorses at least one of the dissident director nominees¹⁹ (for board-related contests) or supports at least one of the dissident proposals (for non-board contests). With respect to contest outcomes, we classify an outcome as a dissident victory unless all of the dissident's requested election items are defeated by a vote of shareholders. Privately-negotiated settlements are classified as dissident wins. Invariably, such settlements occur only when incumbent management makes some concessions to the dissident group.²⁰

Table 1 reports descriptive statistics for the sample of 236 vote recommendations that we use in our empirical analysis as well as for the broader contest universe of 342 contests. Panel A shows that, in our sample, the overall frequency of contests does not exhibit any strong trend over time, yet the percentage of contests with associated ISS recommendations has risen fairly steadily to a high of 89.1% in 2004-2005. The size distribution of firms is clearly skewed in each period, suggesting, not surprisingly, that ISS sometimes issues recommendations for very large firms.

Panel B of Table 1 provides a breakdown of the frequency of recommendations by contest type (note that more than one type can be assigned to a given contest). Contest types include, for example, whether the contest involves a concurrent tender offer by the dissident, whether the target firm is an investment company, or whether the dissident seeks reforms of the firm's internal governance policies. Within each type category, the large majority of contests involve the dissident seeking board seats. Also, among board-related contests, the most common type involves a dissident who seeks a sale or liquidation of the company.

¹⁹Fewer than three percent of the contests in our final sample entailed a "split" recommendation in which ISS favored some but not all of the dissident nominees.

²⁰For example, in early March 2001, Carl Icahn launched a proxy contest at VISX Inc., citing management's unwillingness to contemplate a sale of the company that would benefit shareholders. The company subsequently amended its shareholder rights plan and agreed to let him conduct due diligence pursuant to a sale. In May 2001, Icahn withdrew his slate of nominees, stating that there was no longer a need for a contest given management's "significant shift" toward his position. (Dow Jones News Service, May 1, 2001).

In Panel C, the sample of 236 recommendations is broken down according to the type of the soliciting dissident. Many of the soliciting dissidents are investment companies (33.1%) or nonfinancial corporations (25.0%). Only rarely is the dissident a current officer of the company (2.1%) or a labor union (2.1%). In the overall sample, recommendations are fairly evenly divided between those favoring dissidents (46.7%) and those favoring incumbent management (53.4%). Likewise, across most of the contest and dissident types, both pro-dissident and pro-management recommendations are well-represented.

5. EVIDENCE ON THE MARKET REACTION TO VOTE RECOMMENDATIONS

The presentation of our empirical findings proceeds in two parts. In this section, we consider the overall informativeness of the vote recommendations. We investigate this in two ways. First, we conduct an event study of returns around the time voting recommendations become public. Second, we test whether return volatility increases around voting recommendations. In Section 6, we then examine the precise nature of the information in terms of our prediction and certification hypotheses.

It should be emphasized that although our results are based on a sample of ISS recommendations, they should be interpreted as speaking to the role of proxy voting advisory services generally. Nonetheless, absent comparable data for other advisors, inferences about possible differences across individual advisors are unwarranted by the present analysis.

5.1. Stock Price Reactions

Table 2 reports results from an event study of abnormal returns around vote recommendations. We use a standard market-model methodology to compute cumulative abnormal returns; market model parameters are estimated over a 250-day period ending 21 days before the contest filing date. While our focus is on the price responses to vote recommendations, the table puts them in the context of the full proxy contest and allows us to draw comparisons with the findings of prior literature.

The evidence in Table 2 underscores the economic significance of the proxy contests in our sample. The rightmost column of Table 2 shows the average cumulative abnormal return over the entire contest period. We measure the start of a contest in terms of the earliest filing date of a DEF14A (or the filing date of the earliest “preliminary” PRE14A, if one was made). The resolution date is taken to be the earliest date on which there was an announcement of preliminary vote results or a pre-vote negotiated settlement between management and the dissident. As shown in the last column of Table 2, the average cumulative abnormal return over the contest is large and statistically significant for the full sample (14.75 percent) and also large for the subsamples. It is noteworthy that, even for contests won by management, there is a sizable cumulative average abnormal return (13.35 percent). This suggests that even contests that are unsuccessful from the dissident’s viewpoint can have a salutary impact on firm valuations, possibly by forcing managers to commit to changes that are good substitutes for what the dissident proposed.²¹

In addition to reporting cumulative abnormal returns around the recommendation date (considered in detail below), Table 2 also shows announcement effects surrounding the filing date and the contest resolution date individually. As in previous studies of proxy contests (see, e.g., Dodd and Warner (1983), DeAngelo and DeAngelo (1989), and Mulherin and Poulsen (1998)), the abnormal returns at the initiation of a proxy contest (at the filing date) are economically and statistically significant. The average abnormal return is 9.03 percent (significant at 1%) for all sample contests, and it is also large regardless of whether the dissident sought a board seat; whether the company was large or small relative to the sample median; whether (as a measure of ex ante dissident strength) the subsequent recommendation favored management or the dissident; whether the dissident ultimately won. Around the contest resolution date, it appears that the market regards dissident (management) wins as good (bad) news, as indicated by the observed average abnormal returns of 1.72 percent in the dissident-win subsample and -1.28 percent in the management-win subsample. A somewhat more nuanced interpretation is that it is good news when the dissident campaign goes on to win a contest, but it is disappointing news when the dissident campaign is revealed to be too weak to win.

²¹ See Poulsen and Mulherin for evidence on the allocative implications of proxy contests, both when the dissident wins and when incumbent management wins.

We now turn to returns around the recommendation date. Our event study design reflects the fact that there is uncertainty about the exact time at which vote recommendations become “public” given the sequential process under which recommendations are delivered to clients (the “report release date”) and then possibly covered by the news media (the “news publication date”). When we have a publication date for the earliest Factiva or LexisNexis news story covering a recommendation, we measure the recommendation date announcement return over an event window of $[-7, +1]$ relative to the news publication date. In the absence of any news publication date, we use an effective window of $[-1, +7]$ relative to the report release date. Our intent in using a relatively wide event window is to ensure that we capture the price response to a vote recommendation whenever it occurs—whether at the initial release of the report to institutional clients, at the date of coverage in the media, or through gradual diffusion of information via trading and word-of-mouth. Using a wide window comes at a cost, however: measured returns will include additional noise that is unrelated to the vote recommendation.

It is public knowledge that ISS routinely issues vote recommendations. Therefore, if markets are efficient, the unconditional mean price response to vote recommendations should be zero. Table 2 shows that the average abnormal return around the recommendation date is 0.77 percent across all contests, which is not statistically different from 0 at conventional levels. However, upon conditioning on the direction of the vote recommendation, we see that recommendations for dissidents are associated with positive abnormal returns of 1.92 percent (significant at 10%), while recommendations for management are associated with insignificant, negative abnormal returns of -0.20 percent.

Table 3 explores in more detail the difference in cumulative abnormal returns surrounding pro-dissident versus pro-management recommendations.²² As shown in the table, within most subsamples the cumulative abnormal return is higher around pro-dissident recommendations. Moreover, the difference is statistically significant (at $p < 0.01$) for board contests. This is consistent with what one would expect given that, in contested

²² For convenience, Table 3 repeats the sample-wide averages in the first column so that they can be easily compared with the cross-tabulated results.

board elections, ISS typically recommends on a case-by-case basis rather than using a set of pre-determined vote guidelines (which it usually adheres to for most non-election proxy issues). The difference in abnormal returns is also significant for the subsample of contests involving smaller companies: such contests are likely to involve more overall uncertainty due to a lower amount of analyst and media coverage. In addition, we examine whether the differential price response changed after the passage of key securities laws. Regulation FD, which went into effect on October 23, 2000, prohibits public companies from giving information to investment advisers or other market professionals in advance of providing it to market participants as a whole. Interestingly, although ISS was included in the scope of Regulation FD due to its status as an investment advisor, we do not find any evidence that the stock-price response to vote recommendations changed significantly after Regulation Fair Disclosure (FD). This suggests that the enactment of Regulation FD did not critically affect ISS's ability to collect information relevant to proxy contests. Nevertheless, the overall findings in Tables 2 and 3 support the notion that proxy vote recommendations do convey new information to stock market participants.

5.2. Stock Price Volatility

The return event study evidence in Section 5.1 highlights the differential price responses to pro-dissident versus pro-incumbent recommendations. A broader, alternative measure of information flows is stock price volatility. In particular, changes in the flow of information in the market should be associated with changes in price volatility. The advantage of using volatility to measure the informational impact of recommendations is twofold: we do not need to specify the precise form of information (e.g., which side was recommended), and we do not need to average across signed returns in a given subsample (which could obscure the true informational effect if some recommendations bring good information and some bring bad information).

Table 4 reports cross-sectional medians of absolute market-adjusted abnormal returns (which we use here to measure volatility in event time) for each day in the event window. The question is whether volatility increases when vote recommendations become public. For purposes of hypothesis testing, we use a test methodology developed in Corrado (1989). A limitation of this test and our data is that we need to look at volatility on a daily

basis. Uncertainty about the precise day on which the recommendation information becomes public will reduce the power of the test.²³ In an attempt to partially mitigate this problem, we restrict the sample to contests for which we have a Factiva or LexisNexis news announcement date. Despite the reduction in sample size, we find significant evidence that recommendations convey information to the market. In particular, the median absolute abnormal return is greater on the news announcement date than on other days in the event window.

6. TESTS FOR PREDICTION AND CERTIFICATION

Having documented a stock-price response to vote recommendations, we next turn to our second question: what is the nature of the information in proxy recommendations? As discussed in Section 3, vote recommendations potentially affect stock prices in two distinct ways. First, they can alter the market's beliefs about the probability of a dissident win. Second, recommendations can change investors' assessments of the firm valuations that would result from dissident or incumbent management victory. Although prediction and certification effects are distinct, their impact on stock prices is not additively separable. As is apparent from our basic model (see equation (5)), prediction and certification effects have an interactive influence on stock prices. For example, *ceteris paribus*, a revision in investors' assessment of the value from a dissident win should impact the current market value more if the perceived dissident-win probability is higher.

We test the prediction and certification hypotheses by proceeding in two interrelated steps. First, in Section 6.1, we conduct a multivariate probit analysis of contest outcomes to test whether vote recommendations help (statistically) to predict contest outcomes beyond what is already predictable given an extensive set of contest and firm characteristics. In Section 6.2, we then conduct a probit analysis to generate predicted probabilities in the first stage of a two-stage procedure that tests for certification.

²³ The evidence from non-parametric tests for an increase in volatility over a wider window is consistent with this view concerning the effect of uncertainty about the precise news date.

6.1 PREDICTION EFFECTS

Under the prediction hypothesis, proxy advice causes investors to update their probability beliefs about contest outcomes. Operationally, we test the prediction hypothesis by examining whether recommendations are good statistical predictors of contest outcomes after taking other factors into account.²⁴

At the most basic level, the prediction hypothesis implies that contest outcomes should be correlated with the direction of prior proxy advice. Table 5 provides preliminary univariate evidence regarding this association in the form of a 2x2 contingency table. Dissident victories are indeed more likely following pro-dissident recommendations. The dissident win rate given a pro-dissident recommendation is 62 out of 110 contests, or 56.4%. By the same token, dissidents win in only 38.9% of the 126 contests given a pro-management recommendation. A Pearson chi-squared test supports rejection of the null of no association at the 1% level.

An obvious limitation of the univariate test is that it does not account for other factors that could be correlated with both vote recommendations and contest outcomes. If proxy advice simply repackages publicly available information for forecasting outcomes, then outcomes and recommendations could still show a significant univariate association even if the recommendations have no real prediction effect. Accordingly, we turn to a multivariate probit analysis that includes controls for a variety of contest and firm characteristics, many of which have been found in previous research to be good predictors of vote outcomes.

6.1.1. CONTROL VARIABLES

The multivariate probit analysis of contest outcomes in Section 6.1.2 includes a number of control variables that may be related to voting behavior and outcome probabilities. Many of these have been used in the prior literature on proxy contests (see, e.g., Brickley, Lease, and Smith (1988), Pound (1988), Bethel and Gillan (2002)). To avoid “look-ahead” bias, we only include variables that were available from public sources and that were observable

²⁴ Our prediction tests do not need to identify the exact mechanism by which proxy advice causes investors to update their probability beliefs (i.e., whether a vote recommendation actually influences voting behavior or is simply perceived by investors to be a useful forecast of who will win the contest).

at the time a vote recommendation was made. Table 6 reports summary statistics for our control variables.

Most of the controls are measures of the ease with which rival parties may secure votes in the proxy contest.²⁵ First, we include holdings of voting shares by the dissident and incumbent groups (as percentages of total voting shares outstanding). Holdings are computed from reported information as close to the record date as possible. In computing dissident holdings, we include all shares owned by members of the dissident shareholders' committee as well as voting shares owned by any dissident director nominees. Management holdings are measured as total holdings by all executive officers and directors less any shareholdings of dissidents who also directors on the company's current board.²⁶

Voting rules may also affect the ease with which dissidents and management can win the contest. Companies with majority-vote director election rules may present a greater challenge to dissidents because directors need more than simply a plurality to be elected. We include a dummy variable equal to one if and only if a targeted company has a majority-vote rule in place and if the dissident is seeking board seats. At the same time, cumulative voting, which permits shareholders to cast votes unequally in favor of a particular director nominee, may make it easier for dissidents to win at least one seat.²⁷ Accordingly, we include a dummy variable equal to one if a company permits cumulative voting and the contest involves board seats.

The type of shareholder meeting may also affect the ease with which a dissident nominee might be elected to the board. For example, at annual shareholder meetings, incumbent directors are almost always up for reelection, and, hence, dissident directors typically only need a plurality of votes to be elected. At special shareholder meetings, in contrast, dissidents arguably face a higher hurdle in that they must, first, win enough votes to

²⁵ While the standard economic interpretation of these variables in the proxy context is a useful guide to intuition, the fact that these variables affect both whether a contest occurs and the resolution of a contest, conditional on its occurrence, limits our ability to assign a structural interpretation to these control variables in the probit analysis of the outcome data.

²⁶ We include voting preferred stock and adjust for multiple classes of shares with differential voting rights. However, we exclude any shares underlying unexercised options because such shares would not confer voting power as of the contest record date.

²⁷ Recall that we classify a board contest in which the dissident gains at least one seat as a dissident win.

dislodge incumbent directors and then, separately, collect enough votes to elect their own nominees. In a similar vein, consent solicitations usually are associated with higher voting thresholds (e.g., a majority of all outstanding shares and not a majority of shares represented at an annual meeting). To account for these differences, we include controls that indicate whether a particular contest was waged around a special meeting or a consent solicitation.

Dissidents and incumbents often retain professional proxy solicitors (e.g., Georgeson, Inc.) to publicize their proxy campaigns with uncommitted shareholders. Hence, we use dummy variables to indicate whether the dissident or the incumbent management team employed an outside proxy soliciting firm. Also, following Pound (1988), we include the log of the number of days between the contest initiation and the scheduled vote date. Longer contests afford a dissident more time to publicize a business plan and garner support. Finally, we include the number of shareholders of record to account for variable costs of soliciting proxies.

We also control for factors that could affect uncommitted shareholders' a priori opinions of the rival contestants. First, we use a dummy variable equal to one if a formal takeover offer by the dissident is already outstanding at the time of a proxy contest. Shareholders might be more inclined to elect a dissident group's nominees if they believe this could lead to the dismantling of takeover defenses and to the realization of a substantial takeover premium. Second, we use two measures of CEO influence, the log of CEO tenure and a dummy variable equal to one if the CEO is Chairman (or if there is no Chairman). These measures of influence account for the fact that shareholders might be more inclined to vote against a CEO if he seems to be personally responsible for poor firm performance. Third, we include a dummy variable equal to one if an individual dissident is an "activist investor."²⁸ Activist dissidents, who carry out broad reform agendas across multiple firms, may be perceived as less committed to maximizing shareholder value at any specific firm. Finally, we include context variables related to shareholders' propensity to vote for dissidents or incumbents or which control for the economic environment in which the contest takes place. These

²⁸ We classify a dissident as an "activist investor" if he conducts proxy solicitations at more than one firm in our sample.

include the size of the company (total book value of assets), industry, time period, institutional ownership, and the stock price volatility and adjusted stock performance in the year preceding contest initiation.

We cannot rule out the possibility that our regressions omit some key factor that is relevant to outcome probabilities. However, we are unaware of any major omitted factor that 1) is identifiable from public proxy filings and the previous literature; 2) is widely known by investors prior to a recommendation; and 3) serves as a strong incremental predictor of the outcomes of contested director elections. Moreover, our tests of prediction would be invalidated only if all of the incremental explanatory power of vote recommendations (shown below to be quite substantial) were accounted for by omitted factors.

6.1.2 PROBIT REGRESSION RESULTS

Table 7 shows the results of probit regressions that explain contest outcomes in terms of proxy vote recommendations and our control variables. The dependent variable equals 1 if the contest is won by the dissident and 0 otherwise. Column 1, which contains our basic specification, indicates that the probability of a dissident win is positively and significantly related to the pro-dissident recommendation dummy (REC_D) after controlling for variation in industry, time, and firm size. Moreover, the strength of the relationship is economically meaningful: A recommendation in favor of the dissident is associated with an increase in the probability of a dissident win by about 19.6 percentage points.

Column 2 adds in controls for voting power, voting rules, and meeting type. Several of the controls, including dissident ownership, management ownership, and the interaction involving cumulative voting, are significant and have signs consistent with our a priori intuition. The coefficient on the consent solicitation dummy is positive and significant, indicating that the written consent solicitation process is more conducive to dissident proxy campaigns. More importantly, the coefficient on REC_D continues to be positive and statistically significant at the 1 percent level. Thus, while structural and procedural sources of voting advantage are important determinants of contest outcomes, these factors do not subsume the apparent predictive power of proxy recommendations.

In Column 3, we account for uncommitted shareholders' attitudes towards the rival parties. The coefficient estimate for REC_D becomes slightly more positive, and remains significant at the 1 percent level. Among the additional control variables, only two are significant: The log of CEO tenure and the indicator for a dissident-hired solicitor. In the case of the former, the positive coefficient may indicate that shareholders blame longer-serving CEOs more for poor performance. Regarding the latter, the positive coefficient suggests that soliciting shareholder votes is costly and that professional proxy solicitation services are particularly beneficial for dissidents.

Finally, Column 4 includes controls for institutional ownership and the general informational environment. Once again, the vote recommendation is positively and significantly related to the contest outcome. Moreover, there is no reduction in the magnitude of the coefficient; on the contrary, the marginal effect increases to 0.278. Among the new control variables, the prior-year adjusted stock return has a significantly positive coefficient, reflecting the possibility that very weak stock performance attracts a broad range of dissident types who are, on average, unlikely to win. Consistent with intuition, the coefficient on the indicator for an incumbent-hired solicitor is significantly negative. When the CEO is the same individual as the Chairman, a dissident is less likely to win, perhaps reflecting the fact that powerful CEOs can indirectly influence shareholder votes to their advantage. Interestingly, the coefficient on institutional ownership is positive and significant, suggesting that institutional shareholders are particularly likely to take a proactive role in voting against management. None of the other controls introduced in this specification is significant at the 5 percent level.²⁹

The clear message from our probit analysis is that vote recommendations are good statistical predictors of outcomes, even after controlling for a variety of contest, firm,

²⁹ We also estimate three additional probit regressions (not reported) to test whether the incremental predictive power of proxy advice differs according to key contest characteristics. Each regression is similar to that in Column 4 of Table 7, except that REC_D is replaced by two interactive variables formed from REC_D and one of the following pairs: 1) binary variables indicating whether institutional ownership is above or below the sample median; 2) binary variables indicating whether prior-year stock price volatility is above or below the sample median; and 3) binary variables indicating whether a contest occurred before or after the effective date of Regulation Fair Disclosure (October 23, 2000). In each of the three regressions, the two interaction terms involving REC_D are not significantly different from each other, but they are individually positive and significant. Thus, the predictive power of REC_D does not appear to differ with these three environmental characteristics.

dissident, and management characteristics. The fact that the coefficient on the vote recommendation variable remains highly significant across several nested regression specifications provides strong support to the view that proxy advice brings new probability information to market participants.

6.2 CERTIFICATION EFFECTS

In this section, we turn to the certification hypothesis. As discussed earlier, testing for certification is complicated by the fact that we do not directly observe the impact of a vote recommendation on the market's underlying outcome-contingent valuation expectations. Instead, we observe stock prices, which are expectations of these valuation assessments. Thus, testing for certification requires disentangling the impacts of prediction and certification in interim news on stock prices. We do this by formulating a parsimonious econometric model that lets us identify structural relationships involving stock price changes, outcome probabilities, and certification effect parameters. Because stock prices and dissident win probabilities are observable (or estimable), we can estimate the underlying certification effect parameters and test specific hypotheses about the signs and magnitudes of these effects.

6.2.1 Certification and Stock Prices

To disentangle certification from prediction in stock prices, we extend the modeling framework outlined in Section 3. As before, let t_{A-1} denote a date before a recommendation announcement, and let t_A be the earliest date before the contest resolution date when the recommendation A is publicly known. After the contest is resolved at date t_R , stock prices will still be equal (trivially) to the expectation of conditional firm values:

$$(6) \quad P_{t_R} = \pi_{t_R} D_{t_R} + (1 - \pi_{t_R}) M_{t_R}$$

where D_{t_R} is the market's outcome-contingent valuation of the stock under dissident control, M_{t_R} is the corresponding valuation under management control, and the post-contest resolution dissident-win probability is trivially $\pi_{t_R} = 1$ if the dissident wins, and 0 otherwise.

We assume that the market's (unobserved) outcome-contingent valuations depend, in a simple way, on the direction of the vote recommendation:

$$(7) \quad g^D(REC_D) = \delta_D REC_D + \delta_M (1 - REC_D)$$

$$(8) \quad g^M(REC_D) = \mu_D REC_D + \mu_M (1 - REC_D)$$

$$(9) \quad D_{iR} - D_{iA} = \eta_{iR}^D$$

$$(10) \quad M_{iR} - M_{iA} = \eta_{iR}^M$$

where δ_D , δ_M , μ_D , and μ_M are constants that capture the certification effect of the recommendation;³⁰ and where η_{iR}^D and η_{iR}^M are mean-zero, normally distributed shocks due to later information arriving between t_A and t_R that are independent of each other and independent of dissident win probabilities. Note from equations (7) and (8) that this framework allows for direct, positive certification effects as well as indirect, negative certification effects. For example, a pro-dissident vote recommendation ($REC_D = 1$) can be perceived by the market to be good news about dissident quality ($\delta_D > 0$), but it can also be taken as a sign that management quality is lower than was previously thought ($\mu_D < 0$).

The market's outcome-contingent valuation beliefs D_{iA-1} , D_{iA} , M_{iA-1} , and M_{iA} are not directly observable. However, we can use equations (1) through (10) to relate the underlying certification effects to empirically estimable quantities (along with random noise). In the Appendix, we show that

$$(11) \quad \Delta P_{iA} - \left(\frac{\pi_{iA} - \pi_{iA-1}}{\pi_{iR} - \pi_{iA}} \right) \Delta P_{iR} = \mu_M + (\delta_M - \mu_M) \pi_{iA-1} \\ + (\mu_D - \mu_M) REC_D \\ + (\delta_D - \delta_M - \mu_D + \mu_M) (\pi_{iA-1} \times REC_D) \\ + \eta$$

³⁰ Although we assume, for simplicity, that proxy advice has a constant certification effect across firms, this assumption can be relaxed to allow for firm-specific certification effects. We maintain the simpler setup here since we are primarily interested in understanding the average certification effect across firms.

where $\Delta P_{tA} \equiv P_{tA} - P_{tA-1}$ is the price change over the recommendation window $[t_{A-1}, t_A]$, $\Delta P_{tR} \equiv P_{tR} - P_{tA}$ is the price change around the adjacent window $[t_A, t_R]$ up through the contest resolution date, and the residual is a combination of the various shocks

$$(12) \quad \eta = -\left(\frac{\pi_{tA} - \pi_{tA-1}}{\pi_{tR} - \pi_{tA}}\right) \left(\pi_{tR} \eta_{tR}^D + (1 - \pi_{tR}) \eta_{tR}^M\right) + \pi_{tA-1} \eta_{tA}^D + (1 - \pi_{tA-1}) \eta_{tA}^M.$$

Note that the noise term η satisfies a number of convenient properties: It is normally distributed, mean-zero, and is uncorrelated with the other terms on the right-hand side of Equation (11). Therefore, if valid empirical proxies for ΔP_{tA} , ΔP_{tR} , π_{tA-1} , and π_{tA} are available, we can use OLS regressions to obtain estimates of the underlying certification effect parameters.

6.2.2 Results of Empirical Tests for Certification

The empirical analogue of the left-hand side of Equation (11) is constructed for each contest i in the sample as

$$(13) \quad PDIFF^i = CAR_{[REC-7, REC+1]}^i - \left(\frac{\hat{\pi}_{tA}^i - \hat{\pi}_{tA-1}^i}{\pi_{tR}^i - \hat{\pi}_{tA}^i}\right) \times CAR_{[REC+2, OUTCOME+1]}^i$$

where $CAR_{[REC-7, REC+1]}^i$ and $CAR_{[REC+2, OUTCOME+1]}^i$ are cumulative abnormal returns measured over adjoining event windows that surround the recommendation date and resolution date, respectively. The terms $\hat{\pi}_{tA}^i$ and $\hat{\pi}_{tA-1}^i$ are the fitted probabilities of dissident victory from first-stage probit regressions (similar to those in Column (2) of Table 7) that include and exclude, respectively the pro-dissident recommendation dummy (REC_D^i); and π_{tR}^i is an indicator variable equal to 1 if the dissident wins the contest and 0 otherwise. To ensure the event windows used in constructing $PDIFF^i$ are well-defined, we only work with contests where there are a minimum of three trading days between the recommendation and contest resolution dates.

To test the certification hypothesis, we estimate the following cross-sectional OLS regression, which corresponds to the theoretical relationship in Equation (11):

$$(14) \quad PDIFF^i = \alpha + \beta_1 \hat{\pi}_{iA-1}^i + \beta_2 REC_D^i + \beta_3 (\hat{\pi}_{iA-1}^i \times REC_D^i) + \varepsilon^i.$$

The regression yields estimates for the parameters α , β_1 , β_2 , and β_3 , which can be linearly rearranged to obtain estimates of the underlying parameters δ_D , δ_M , μ_D , and μ_M .

Estimation of (14) for the full sample can be used to test the average certification effect across all contests. However, inspection of the theoretical error structure in (12) suggests the possibility of heterogeneity in the residual term η across contest outcomes. In particular, when a contest is won by the dissident, $\pi_{iR}^i = 1$, and we see from Equation (12) that η is independent of η_{iR}^M . Likewise, when management wins, $\pi_{iR}^i = 0$ and η is independent of η_{iR}^D . This suggests separately estimating regression (14) and deriving estimates of δ_D , δ_M , μ_D , and μ_M for each of two subsamples corresponding to who won the contest (i.e., the dissident group or the management group).

Table 8 presents the results of the regressions. The top part of the table reports the R^2 , residual standard error, and sample size for each OLS regression, along with estimates and standard errors for each of the four underlying certification parameters. Since we expect significant heteroskedasticity given our cross-sectional samples (see in particular Equation (12)), we report heteroskedasticity-corrected standard errors.

Columns (1) through (3) report the results from estimating the model using all observations in the first-stage probit regressions (i.e., whether or not stock price or recommendation data are available). The parameter estimates support the certification hypothesis: vote recommendations do appear to influence the outcome-contingent valuations implicit in stock prices, and they appear to do so in the natural direction. For example, in the management-win subsample the estimate of μ_D is significantly negative at the 5% level. Thus, a pro-dissident recommendation generally lowers the market's assessment of

incumbent-win-contingent stock valuations. Likewise, the significantly positive estimate of δ_D in the management-win subsample is consistent with the interpretation that dissident-win-contingent valuations are revalued upwards when the proxy advisor endorses the dissident.

The bottom part of Table 8 reports results from hypothesis tests concerning different forms of certification. The most general test considers whether proxy recommendations have any systematic effect on quality assessments. We find that the estimates of δ_D , δ_M , μ_D , and μ_M are not jointly significantly different from zero in the full sample or the dissident-win subsample, but they are in the management-win subsample ($p=0.048$). We also conduct separate tests that examine whether investors are specifically learning about the dissident (“dissident certification”) or about management (“management certification”). As shown in Column (3), in the management-win subsample we can reject the null hypothesis of no dissident certification effect and also the null of no management certification effect. Finally, based on a one-sided test, in the management-win subsample we can strongly reject the null hypothesis that pro-dissident recommendations have a non-positive dissident certification effect ($\delta_D \leq 0$).

We also estimate additional versions of the model after imposing the requirement that the first-stage probit regressions use only observations that are also present in the second-stage OLS regression. As Columns (4) through (6) in the table indicate, such a restriction yields results in the management-win subsample that are qualitatively consistent but stronger: we again reject the null hypotheses of no dissident and no management certification. Also, a one-sided test strongly rejects the null that pro-dissident recommendations do not have a positive certification effect ($p < 0.001$). Overall, the results provide considerable support for the certification hypothesis and indicate that vote recommendations help market participants learn about outcome-contingent valuations, particularly regarding dissident teams.

A potential concern here is that the dependent variable, $PDIFF^i$, in Table 8 is constructed using estimated dissident win probabilities $\hat{\pi}_{iA-1}^i$ and $\hat{\pi}_{iA}^i$ rather than the true probabilities

π_{tA-1}^i and π_{tA}^i . As a result, the error term in the regression analysis of $PDIFF^i$ will reflect error in the estimation of these probabilities. This could lead to a violation of the assumptions underlying our parametric test statistics. To examine whether our findings are robust to this possibility, we estimated bootstrapped standard errors through repeated iterations of the two-stage model. The results with bootstrapping are qualitatively similar to those obtained under the restricted-sample estimation procedures in Columns (4) through (6) of Table 8. Thus, the evidence appears to be robust to the possibility of estimation error in the first-stage probit regressions.

7. CONCLUSION

This paper provides the first systematic empirical investigation of the role of third-party voting advisory services in contested proxy elections. We focus on Institutional Shareholder Services (ISS), a large and prominent proxy advisory firm. Our analysis examines whether proxy recommendations bring new information to the market and investigates two hypotheses—prediction and certification—about the nature of the information in proxy recommendations. We establish three main findings. First, proxy recommendations do appear to be a source of new, market-relevant information. We document positive abnormal stock returns at the arrival of pro-dissident recommendations, and public news of recommendations is accompanied by significant abnormal stock price volatility. Second, proxy advisor recommendations are good predictors of contest outcomes in the sense of forecasting, and possibly influencing, proxy votes, even after controlling for a variety of other predictive factors such as voting rules, ownership stakes, and contest characteristics. Third, advisors play a certification role: our empirical results indicate that outcome-contingent valuations implicit in stock prices appear to be revised in response to proxy recommendations. Future work could seek to shed more light on the implications of proxy advice for investor welfare and the functioning of the proxy voting mechanism.

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Table 1**Descriptive Statistics for Contests and Vote Recommendations**

This table presents descriptive statistics for a sample of 342 proxy contests during the 1992 to 2005 period and 236 associated vote recommendations issued by Institutional Shareholder Services (ISS). Proxy contests are identified from DEFC14A filings via the SEC EDGAR database. Vote recommendations are identified from the Dow Jones Factiva, Lexis-Nexis, and Investext databases and from information provided by ISS. A vote recommendation is said to favor the dissident group if it endorses at least one dissident director (in the case of board contests) or at least one dissident proposal (in the case of non-board contests). Panel A reports statistics on the frequencies of contests and recommendations over time and on the size distribution of firms with vote recommendations. Panels B and C provide breakdowns of the sample according to contest type and dissident type, respectively. Contest and dissident type classifications are based on information reported in news articles and DEFC14A filings.

Panel A: Contest and Recommendation Frequencies over Time

Time Period	Contests (Initial Sample)			Recommendations		
	Number	# with Vote Rec's.	% with Vote Rec's.	Avg. (Median) Firm Size, \$M Assets	Rec's. for Diss.	Rec's. for Mgmt.
1992-1995	36	16	44.4	2,145.0 (328.4)	7	9
1996-1997	48	25	52.1	4,451.3 (320.7)	8	17
1998-1999	66	34	51.5	1,088.4 (212.2)	18	16
2000-2001	83	68	81.9	2,279.3 (266.3)	34	34
2002-2003	63	52	82.5	3,325.2 (213.2)	20	32
2004-2005	46	41	89.1	3,595.4 (480.1)	23	18
Total (1992-2005)	342	236	69.0	2,787.8 (283.2)	110	126

Panel B: Recommendation Frequency, by Type of Contest

Contest Characteristics	By Whether Board Seats are Involved			By Direction of Recommendation	
	# not Board- Related	# Board- Related	% Board- Related	Rec's. for Diss.	Rec's. for Mgmt.
Concurrent takeover bid by dissident	15	37	71.2	29	23
Dissident seeks sale or liquidation of co.	10	56	84.8	26	40
Targeted firm is a fund company	4	21	84.0	9	16
Dissident objects to firm's financial policy	1	19	95.0	8	12
Dissident proposes amendment to internal governance	13	46	77.9	27	32
Dissident proposes removal of a takeover defense	12	33	73.3	23	22

(continued)

Table 1, Continued

Dissident Type	By Whether Board Seats are Involved			By Direction of Recommendation	
	# Not Board-Related	# Board-Related	% Board-Related	Rec's. for Diss.	Rec's. for Mgmt.
Investment company	8	70	89.7	35	43
Corporation (not incl. investment co.)	17	42	71.2	35	24
Individual shareholder activist	4	29	87.9	15	18
Labor union	3	2	40.0	4	1
Current officer or director	1	4	80.0	4	1
Former officer or director	1	18	94.7	3	16
Individual activist & former officer or director	1	4	80.0	3	2
Other shareholder group	3	29	90.6	11	21
Total	38	198	83.9	110	126

Table 2: Abnormal Returns Around Key Contest Dates

This table reports average cumulative abnormal returns around key event dates for the sample of 201 proxy contests with available stock price data from CRSP and with a vote recommendation issued by Institutional Shareholder Services (ISS). Contests are identified from DEFC14A filings via the SEC EDGAR database. Vote recommendations are identified from the Dow Jones Factiva, Lexis-Nexis, and Investext databases and from information provided by ISS. Abnormal returns are calculated using a standard one-factor market model in which market returns are measured using the return on an equal-weighted CRSP index. The initial filing date is the first date on which the dissident group filed a proxy statement (form PREC14A or DEFC14A) with the SEC. The proxy contest resolution date is the earliest news report in the Factiva or LexisNexis database of either (1) a negotiated settlement in which the dissident withdraws the contest; or (2) a resolution of the contest by vote, based on a preliminary vote count. The recommendation announcement date is defined as follows: when a public news story is available, the announcement date equals the date of the earliest such story; when no news story is available, the announcement date is imputed to be the earlier of (a) three days prior to the contest resolution date and (b) six days after the ISS report date. Only contests in which there are at least three trading days between the announcement date and the resolution date are included. ***, ** and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	<i>N</i>	[-20,+1] around earliest filing date of dissident proxy		[-7,+1] around recommendation announcement date		[-1,+1] around date of public resolution of proxy contest		20 days before earliest filing date through 1 day after public resolution	
		Mean	T-stat	Mean	T-stat	Mean	T-stat	Mean	T-stat
All Contests	201	9.03***	7.75	0.77	1.01	0.11	0.24	14.75***	6.19
Election of board members									
Board-related	170	9.25***	7.13	1.35	1.60	0.35	0.71	15.78***	5.89
Non-board related	31	7.80***	3.07	-2.40	-1.43	-1.21	-1.20	9.07*	1.90
Company size									
Large (Assets > median)	103	8.02***	5.84	-0.46	-0.51	0.36	0.67	12.72***	4.47
Small (Assets <= median)	98	10.01***	5.29	2.06*	1.68	-0.15	-0.21	16.88***	4.37
Time period									
Pre-FD	84	11.69***	6.59	1.27	1.08	-0.50	-0.72	19.81***	5.48
Interim period	58	6.13**	2.52	2.70	1.75*	0.26	0.29	12.95***	2.60
Post-NPX rule	59	8.08***	4.21	-1.84	-1.47	0.82	1.16	9.30**	2.36
Outcome									
Dissident win	93	9.52***	5.48	-0.07	-0.06	1.72***	2.65	13.35***	3.60
Management win	108	8.61***	5.48	1.49	1.44	-1.28**	-2.11	15.95***	5.17
ISS recommendation									
For dissident	92	8.42***	5.19	1.92*	1.82	1.29**	2.07	14.83***	4.53
For management	109	9.54***	5.76	-0.20	-0.19	-0.89	-1.43	14.68***	4.29

Table 3: Stock Price Reaction to Proxy Advice, by Direction of Vote Recommendation

This table reports average cumulative abnormal returns around proxy advice issued by Institutional Shareholder Services (ISS), according to contest characteristics and the direction of the recommendation. The sample consists of 201 vote recommendations issued during proxy contests identified from SEC filings, ISS archives, and the Dow Jones Factiva, Lexis-Nexis, and Investext databases. Abnormal returns are calculated using a standard one-factor market model in which market returns are measured using the return on an equal-weighted CRSP index. The proxy contest resolution date is the earliest news report in the Factiva or LexisNexis news database of either (1) a negotiated settlement in which the dissident withdraws the contest; or (2) a resolution of the contest by vote, based on a preliminary vote count. The recommendation announcement date is defined as follows: when a public news story is available, the announcement date equals the date of the earliest such story; when no news story is available, the announcement date is imputed to be the earlier of (a) three days prior to the contest resolution date and (b) six days after the ISS report date. Sample sizes and t-statistics (in parentheses) are reported below means. Only contests in which there are at least three trading days between the announcement date and the resolution date are included. The rightmost column reports p-values from t-tests for differences in means. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Contest Sample	(1) All Recs.	(2) Rec. for Mgmt.	(3) Rec. for Dissident	P-value of Test for Diff., (2)–(3)
All contests	0.77 (1.01) 201	-0.20 (-0.19) 109	1.92* (1.82) 92	0.209
Board contests	1.35 (1.60) 170	-0.56 (-0.47) 95	3.76*** (3.17) 75	0.009
Tender offer by the dissident	0.26 (0.16) 42	-0.56 (-0.24) 20	1.00 (0.46) 22	0.502
Large firms (assets above sample median)	-0.46 (-0.51) 103	-0.21 (-0.17) 50	-0.69 (-0.54) 53	0.848
Small firms (assets below sample median)	2.06* (1.68) 98	-0.20 (-0.12) 59	5.47*** (3.05) 39	0.015
Pre-FD (Jan. 1992 to Oct. 2000)	1.27 (1.08) 84	0.07 (0.04) 45	2.64 (1.63) 39	0.436
Interim Period (Nov. 2000 to Mar. 2003)	2.70* (1.75) 58	1.65 (0.77) 32	3.99 (1.80) 26	0.445
Post-NPX (Apr. 2003 to Dec. 2005)	-1.84 (-1.47) 59	-2.44 (-1.34) 32	-1.12 (-0.67) 27	0.346
Filing date return above sample median	0.05 (0.04) 102	-0.39 (-0.24) 59	0.66 (0.40) 43	0.708
Filing date return below sample median	1.51 (1.60) 99	0.02 (0.02) 50	3.02** (2.25) 49	0.111

Table 4: Abnormal Stock Price Volatility Surrounding Vote Recommendations Covered by the Media

This table reports median absolute abnormal returns on event days surrounding news reports of vote recommendations made by Institutional Shareholder Services (ISS). The sample consists of recommendation announcements identified from the Dow Jones Factiva and Lexis-Nexis databases. Abnormal returns are calculated using a market-adjusted methodology (using the return on an equal-weighted CRSP index). The recommendation announcement date is defined as the date of the earliest news story reporting a recommendation. We use the nonparametric rank test procedure described in Corrado (1989) to test the one-sided null hypotheses that the absolute abnormal return on a given day is greater than the absolute abnormal returns during the entire [filing+2,announcement+1] period. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively under the Corrado (1989) one-sided test.

Event Day	All contests N = 176		Board Contests N = 149		Recs. For Mgmt. N = 88		Recs. For Diss. N = 88		Small Firms N = 77		Pre-FD N = 80	
	Median	t-stat	Median	t-stat	Median	t-stat	Median	t-stat	Median	t-stat	Median	t-stat
-7	0.0152	0.913	0.0188	0.806	0.0207	1.546	0.0128	-0.255	0.0222	0.735	0.0205	1.318*
-6	0.0145	0.467	0.0163	0.827	0.0132	-0.586	0.0159	1.246	0.0238	1.469*	0.0137	-0.078
-5	0.0163	0.947	0.0163	1.169	0.0164	0.062	0.0162	1.277	0.0167	-0.725	0.0185	0.959
-4	0.0155	0.855	0.0157	0.597	0.0163	0.942	0.0147	0.264	0.0187	-0.241	0.0145	0.597
-3	0.0122	-1.756	0.0124	-1.772	0.0132	-1.388	0.0115	-1.094	0.0157	-0.708	0.0114	-1.595
-2	0.0120	-1.358	0.0119	-1.632	0.0131	-0.608	0.0115	-1.312	0.0136	-1.079	0.0120	-1.607
-1	0.0135	-0.553	0.0135	-0.535	0.0121	-0.555	0.0140	-0.222	0.0126	-1.047	0.0134	-0.608
0	0.0175	2.325**	0.0173	1.399*	0.0182	2.656***	0.0163	0.583	0.0218	1.145	0.0195	2.009**
1	0.0139	1.816**	0.0141	1.821**	0.0127	0.267	0.0156	2.338***	0.0159	0.753	0.0137	1.235

Table 5**Contest Outcome Frequencies, by Direction of Recommendation**

This contingency table shows relative frequencies of proxy contest outcomes following proxy advice that endorsed either the dissident group or the incumbent group. The sample consists of 236 vote recommendations issued by Institutional Shareholder Services (ISS) during the 1992 to 2005 period. Vote recommendations are identified from DEFC14A filings, Dow Jones Factiva, Lexis-Nexis, Investext, and information supplied by ISS. A vote recommendation is said to favor the dissident group if it endorses at least one dissident director (in the case of contested board elections) or at least one dissident proxy proposal (in the case of non-board contests). The dissident is said to win the contest if and only if one of the following is true: (1) the dissident group extracts a settlement from the company; (2) the contest involves board seats and dissidents win at least one seat; or (3) the contest does not involve board seats and shareholders approve at least one dissident proxy proposal. Beside each cell frequency in parentheses is the percentage of total column outcomes represented by that frequency. The p-value is reported for a Pearson Chi-Squared test of independence.

	Rec. Favors Dissident	Rec. Favors Incumbent	Total
Dissident Wins	62 (56.36%)	49 (38.89%)	111 (47.03%)
Management Wins	48 (43.64%)	77 (61.11%)	125 (52.97%)
Total	110	126	236
Pearson Chi- Squared Test	p-value = 0.007		

Table 6

Characteristics of Contests, Recommendations, and Firms

This table presents summary statistics for various characteristics of our sample of 236 vote recommendations issued by Institutional Shareholder Services (ISS) during the 1992-2005 time period. *REC_D* is a binary variable indicating that a vote recommendation endorses at least one dissident director (in the case of board contests) or at least one dissident election proposal (in the case of non-board contests). *Dissident ownership* is the percentage of total voting equity held by the dissident group as of the record date; it excludes any unexercised options held by current officers or board members who belong to the dissident committee. *Management ownership* is the percentage of total voting equity held by officers and directors as of the record date, minus any unexercised options and any shares held by dissidents currently on the board. *Cumulative voting* is a binary variable equal to one if and only if voting for directors is cumulative according to state law and the firm's articles or bylaws. *Majority needed to elect* is a binary variable equal to one if and only if a majority affirmative vote is required to elect directors under state law and the firm's articles or bylaws. *Special meeting* is a binary variable equal to one if the proxy solicitation pertains to a special meeting of shareholders (not an annual meeting); *consent solicitation* is a binary variable equal to one if the dissident is soliciting written consents, and equal to zero otherwise. *Dissident hires proxy solicitor (incumbent hires proxy solicitor)* is a binary variable equal to 1 if and only if the dissident team (incumbent team) employs a proxy solicitor during the contest. *Contest length* is equal to the number of days elapsed between the first filing of a DEFC14A and the resolution of a contest (either by vote or settlement). *Shareholders of record* is the number of shareholders of record as reported in the firm's most recent annual report. *Takeover bid by dissident* is a binary variable indicating whether or not the dissident has an outstanding takeover offer for shares of the firm. *CEO tenure* is the amount of time (years) the CEO has been in office. *CEO is Chairman* equals 1 if the CEO is the same individual as the chairman or if there is no chairman; it equals 0 otherwise. *Dissident is activist* equals 1 if the dissident targeted more than one company in the sample, and equal to zero otherwise. *Firm size* is total assets in millions of U.S. dollars, at the end of the last fiscal year preceding the record date. *Institutional ownership* is the percentage of outstanding equity held by institutions at the end of the latest quarter preceding the record date. *Adjusted return, prior year* is the raw percentage return minus the CRSP Equal-weighted index return over the calendar year ending 20 days before the first PREC14A or DEFC14A filing in a contest. All variables are constructed from SEC filings, news articles, Thomson CDA/Spectrum, or CRSP.

Table 6, Continued

Variable	Mean	Median	Std. Dev.	Obs.
REC _D (= recommendation favors diss.)	0.47	1	0.50	236
Dissident ownership (%)	8.17	6.88	7.93	235
Management ownership (%)	8.24	4.76	9.92	236
Cumulative voting	0.08	0	0.27	236
Majority required to elect	0.18	0	0.39	236
Special meeting	0.14	0	0.34	236
Consent solicitation	0.06	0	0.24	236
Dissident hires proxy solicitor	0.82	1	0.38	233
Incumbent hires proxy solicitor	0.97	1	0.18	232
Contest length (days)	35.40	29	29.78	236
Shareholders of record	5785.97	1163.5	16298.87	202
Takeover bid by dissident	0.22	0	0.42	236
CEO tenure (yrs.)	6.55	4	7.47	236
CEO is chairman	0.64	1	0.48	236
Dissident is activist	0.14	0	0.35	236
Firm size, assets (\$M)	2,788	283.16	9,523.5	236
Institutional ownership (%)	35.70	31.45	26.36	235
Adjusted return, prior year (%)	-29.47	-27.60	43.30	227
Volatility, prior year (%)	0.519	0436	0.289	227

Table 7: Proxy Contest Outcomes, Vote Recommendations, and Prediction

This table reports the estimated marginal effects from multivariate probit regressions explaining proxy contest outcomes (1 = dissident win, 0 = incumbent management win) in terms of the direction of proxy advice and other explanatory variables. The sample consists of 236 proxy contests over the 1992-2005 in which a recommendation was issued by Institutional Shareholder Services (ISS). The main explanatory variable of interest is REC_D , a binary variable equal to 1 if and only if the recommendation endorses at least one dissident director (in the case of board contests) or at least one dissident election proposal (in the case of non-board contests). Other independent variables include *Pre-FD period*, a dummy variable equal to 1 if a contest filing occurred before October 23, 2000; *Post-NPX period*, a dummy variable equal to 1 if and only if a contest filing occurred after March 10, 2003; and *Filing-date abnormal return*, the cumulative abnormal return over days [-20,1] surrounding the first PREC14A or DEFC14A contest filing, calculated using a standard one-factor market model with the return on an equal-weighted CRSP index as the market return. All other independent variables are as described in Table 6. Each specification includes 1-digit SIC dummies and a contest-year time trend. Z-statistics appear in parentheses below estimated marginal effects. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels.

Independent Variable	(1)	(2)	(3)	(4)
REC_D (1 = rec. for dissident)	0.196*** (2.87)	0.235*** (3.24)	0.240*** (2.83)	0.278*** (3.06)
Ln(assets)	-0.014 (-0.77)	0.002 (0.11)	0.006 (0.21)	-0.018 (-0.49)
Ln(Dissident ownership)		0.081** (2.07)	0.034 (0.73)	0.009 (0.18)
Ln(Management ownership)		-0.087** (-2.38)	-0.163*** (-3.28)	-0.222*** (-4.02)
Cumulative voting * board contest		0.346** (2.27)	0.310** (1.97)	0.381** (2.14)
Majority needed to elect * board Contest		0.061 (0.60)	0.122 (1.03)	0.152 (1.21)
Special meeting		0.059 (0.61)	-0.033 (-0.28)	-0.015 (-0.11)
Written consent solicitation		0.395** (2.47)	0.437** (2.53)	0.493*** (2.64)
Institutional ownership (%)				0.116** (2.10)
Ln(volatility)				2.136 (0.59)
Ln(contest length)			0.001 (0.54)	0.001 (0.72)
Ln(shareholders)			-0.045 (-1.33)	-0.066* (-1.81)

(continued)

Table 7, Continued

Independent Variable	(1)	(2)	(3)	(4)
Dissident hires solicitor			0.353*** (2.96)	0.419*** (3.38)
Incumbent hires solicitor			-0.345 (-1.88)	-0.427** (-2.31)
Activist dissident			-0.076 (-0.63)	-0.094 (-0.71)
Takeover bid by dissident			-0.065 (-0.64)	-0.162 (-1.38)
CEO = chairman			-0.152 (-1.56)	-0.241** (-2.22)
Ln(CEO tenure)			0.225*** (3.46)	0.284*** (3.54)
Filing-date abnormal return				0.068 (0.33)
Adjusted return, prior year				0.249** (2.15)
Contest year	-0.011 (-0.47)	-0.002 (-0.06)	-0.026 (-0.81)	-0.010 (-0.28)
Pre-FD period	-0.074 (-0.63)	-0.086 (-0.70)	-0.221 (-1.45)	-0.085 (-0.50)
Post-NPX period	-0.002 (-0.02)	-0.073 (-0.64)	-0.003 (-0.02)	-0.004 (-0.03)
1-digit SIC dummies	Yes	Yes	Yes	Yes
Number of observations	235	234	199	190
Pseudo-R ²	0.079	0.147	0.259	0.335

Table 8
Testing for Certification

This table presents tests of the certification hypothesis for a sample of 202 proxy vote recommendations issued by Institutional Shareholder Services (ISS) during proxy contests in the 1992-2005 period. The tests are based on the linear model, outlined in the text, that relates innovations in perceived dissident and management quality to underlying parameters δ_D , δ_M , μ_D , μ_M and to the direction of the ISS recommendation. The underlying parameters δ_D , δ_M , μ_D , μ_M are estimated using cross-sectional OLS regressions of the following form:

$$\begin{aligned} PDIFF^i &= \mu_M + (\delta_M - \mu_M)\hat{\pi}_{tA-1}^i \\ &+ (\mu_D - \mu_M)REC_D^i \\ &+ (\delta_D + \mu_M - \delta_M - \mu_D)(\hat{\pi}_{tA-1}^i \times REC_D^i) + \varepsilon^i. \end{aligned}$$

In the regressions, REC_D^i is a binary variable equal to 1 if and only if the vote recommendation in contest i favors the dissident. The dependent variable in the regression, $PDIFF^i$, is constructed from observed stock prices and estimated probabilities as

$$PDIFF^i = CAR_{[REC-7, REC+1]}^i - \left(\frac{\hat{\pi}_{tA}^i - \hat{\pi}_{tA-1}^i}{\pi_{tR}^i - \hat{\pi}_{tA}^i} \right) \times CAR_{[REC+2, OUTCOME+1]}^i$$

where $CAR_{[REC-7, REC+1]}^i$ and $CAR_{[REC+2, OUTCOME+1]}^i$ are cumulative abnormal returns over the indicated event windows surrounding the recommendation date and resolution date, respectively; $\hat{\pi}_{tA}^i$ and $\hat{\pi}_{tA-1}^i$ are fitted probabilities of dissident victory derived from probit regressions (similar to specification (2) in Table 7) that include and exclude, respectively, the recommendation as an explanatory variable; and π_{tR}^i is an indicator variable equal to 1 if the dissident wins the contest and 0 otherwise. We estimate the model for three samples: all contests, dissident-won contests ($\pi_{t+m}^i = 1$), and management-won contests ($\pi_{tR}^i = 0$). To ensure the windows used in constructing $PDIFF^i$ are well-defined, only contests in which there are at least three trading days between the recommendation date and the resolution date are included. Columns (1) through (3) use all available observations for estimating the first-stage probit regressions; columns (4) through (6) estimate first-stage probits that use only observations available for the 2nd stage OLS regression. The top part of the table reports regression results and estimates of underlying parameters (standard errors in parentheses); the bottom part of the table reports p-values from tests of five hypotheses regarding the underlying parameters δ_D , δ_M , μ_D , and μ_M .

	Unrestricted Sample in 1 st Stage			Restricted Sample in 1 st Stage		
	All Contests (1)	Dissident Wins (2)	Mgmt. Wins (3)	All Contests (4)	Dissident Wins (5)	Mgmt. Wins (6)
OLS regression:						
R^2	0.010	0.076	0.097	0.011	0.069	0.071
Standard error	0.125	0.112	0.113	0.118	0.117	0.112
# of observations	202	93	109	202	93	109
Parameters:						
δ_D	0.006 (0.064)	-0.092 (0.082)	0.205 (0.076)	-0.010 (0.055)	-0.093 (0.071)	0.194 (0.051)
δ_M	-0.033 (0.024)	-0.020 (0.026)	-0.022 (0.040)	-0.027 (0.027)	0.002 (0.024)	-0.034 (0.051)
μ_D	0.030 (0.049)	0.130 (0.088)	-0.101 (0.036)	0.039 (0.039)	0.116 (0.071)	-0.067 (0.025)
μ_M	0.039 (0.028)	-0.006 (0.031)	0.042 (0.034)	0.028 (0.027)	-0.027 (0.022)	0.041 (0.037)
Tests for Certification						
$H_0: \delta_D = \delta_M = \mu_D = \mu_M = 0$; $H_1: \delta_D, \delta_M, \mu_D, \mu_M$ not all zero	0.343	0.246	0.048	0.517	0.203	0.003
Tests for Dissident Certification						
$H_0: \delta_D = \delta_M = 0$; $H_1: \delta_D \neq 0$ or $\delta_M \neq 0$	0.394	0.399	0.026	0.600	0.428	0.0009
$H_0: \delta_D \leq 0$; $H_1: \delta_D > 0$	0.461	0.132	0.004	0.430	0.098	0.0001
Tests for Management Certification						
$H_0: \mu_D = \mu_M = 0$; $H_1: \mu_D \neq 0$ or $\mu_M \neq 0$	0.316	0.335	0.011	0.353	0.131	0.020
$H_0: \mu_M \leq 0$ $H_1: \mu_M > 0$	0.084	0.579	0.109	0.147	0.887	0.131

APPENDIX

Derivation of Equations (11) and (12) in the text

First, we use (3), (4), (7), and (8) to rewrite the price change around the recommendation date, $\Delta P_{tA} \equiv P_{tA} - P_{tA-1}$ in (5), as:

$$(A1) \quad \Delta P_{tA} = (\pi_{tA} - \pi_{tA-1})(D_{tA} - M_{tA}) + \pi_{tA-1}\eta_{tA}^D + (1 - \pi_{tA-1})\eta_{tA}^M \\ + \pi_{tA-1}[\delta_D REC_D + \delta_M (1 - REC_D)] + (1 - \pi_{tA-1})[\mu_D REC_D + \mu_M (1 - REC_D)]$$

Second, use (9) and (10) to write the price change $\Delta P_{tR} \equiv P_{tR} - P_{tA}$ around the contest resolution as:

$$(A2) \quad \Delta P_{tR} = (\pi_{tR} - \pi_{tA})(D_{tA} - M_{tA}) + \pi_{tR}\eta_{tR}^D + (1 - \pi_{tR})\eta_{tR}^M.$$

Third, to eliminate the unobservable term $D_{tA} - M_{tA}$ from equation (A1), solve (A2) for $D_{tA} - M_{tA}$, substitute into (A1), and rearrange to obtain Equations (11) and (12) in the text. Finally, note that since η is a linear combination of the fundamental shocks, it is, by construction, normally distributed, mean-zero, and uncorrelated with each of the other terms on the RHS of (12).