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Proxy Advisory Firms and Stock Option Exchanges: The Case of Institutional Shareholder Services

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Abstract:

This paper examines the relationship between firm performance and the recommendations provided by Institutional Shareholder Services (ISS), the largest proxy advisory firm in the United States, regarding shareholder votes in stock option exchange programs. Using a comprehensive sample of stock option exchanges announced between 2004 and 2009, we find that firms that adopt exchanges that follow the restrictive ISS policies exhibit statistically *lower* market reaction at the announcement of this transaction, *lower* operating performance, and *higher* executive turnover. These results are consistent with the conclusion that ISS recommendations regarding stock option exchanges are *not* value increasing for shareholders.

Keywords: proxy advisory firms; stock option exchanges; institutional shareholder voting, proxy voting

JEL Classification: G1; G3; K2; L5;

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1. Introduction

Institutional investors have increasingly separated their stock selection decisions from the decisions made on voting their owned shares. In many institutions, the portfolio managers that make buy or sell decisions have little ability to influence their institution's vote on shareholder matters contained in the annual proxy statement.[1] As proxy advisor Glass Lewis & Co. notes, "Most institutions do not have adequate in-house resources to ensure that the right decisions are being made on the hundreds or thousands of proxies they vote each year".[2] To fulfill their required fiduciary duties to vote proxies, many institutional investors subscribe to third-party proxy advisory firms such as Institutional Shareholder Services (ISS) and Glass Lewis to complete the mechanics of share voting *and* in many cases determine whether they should vote for or against a management or shareholder proposal presented in the proxy statement. These voting recommendations are developed based on a set of criteria considered by proxy advisory firms to be desirable structural features for elements of corporate governance or executive compensation programs. Since proxy advisory firms can sway substantial numbers of shareholder votes (e.g., Morgan, Poulsen, and Wolf, 2006; Winter, 2010), they have the ability to influence corporate governance choices. Individual firms and business groups argue that the

[1] For instance, at Fidelity Investments, according to their proxy voting policy, proxy voting is conducted by a separate internal group and does not explicitly provide for input or recommendations from portfolio managers or research analysts covering the firm on many common proxy items. Fidelity's policy provides for consulting portfolio managers on items for which no guidelines have been established. However guidelines have been established for many common circumstances, including director elections, equity compensation plans, stock option exchanges and "say-on-pay" advisory votes, implying that portfolio managers would not ordinarily participate in the review of those items (Fidelity Investments, 2010). Other firms completely outsource the voting process to third-party proxy advisors, bypassing input from portfolio managers.

[2] www.glasslewis.com/solutions/proxypaper.php (accessed April 22, 2011)

increased influence of proxy advisors is actually harmful to shareholders (Business Roundtable, 2011; Lucchetti, 2011).

Perhaps the most pointed critique of proxy advisory firms is the claim that there is a misalignment between shareholder interests and the objectives of these commercial consulting firms (e.g., Belinfanti, 2010). Mutual funds have a fiduciary responsibility to vote their shares in a manner that is free from conflicts of interest that might exist between the fund investors and fund management. Since mutual funds tend to have relatively small holdings in a large number of stocks, the cost of researching every proxy proposal for all stocks in their portfolio is quite expensive. Moreover, any economic benefits associated with this type of corporate governance research are likely to be quite small because an individual fund only recognizes the benefit associated with its small ownership stake (i.e., there are free-rider problems). In this market setting, we would expect "corporate governance expert" entities to invest in costly research where the cost is shared across many institutional investor clients.

The important public policy question is whether these proxy advisors have appropriate incentives to invest sufficient resources to verify whether their voting recommendations are actually correct (i.e., create shareholder value).[3] Critics cite the fact that no meaningful competition has entered the market since the major regulatory changes in 2003 as evidence that proxy advisory firms enjoy significant protection from substantial barriers to entry.[4] If institutional investors realize only a small benefit to improving corporate governance and simply desire to satisfy their fiduciary voting responsibilities at the lowest cost, proxy advisory firms

[3] Belinfanti (2010) examines agency concerns in the interaction of ISS and shareholders from a legal perspective. She concludes that the relationship between ISS and institutional shareholders does not provide appropriate incentives to ISS to act in the best interests of investors because they bear no risk resulting from bad recommendations and benefit from high barriers to entry in the proxy advisor market.

[4] Since institutional investors hold shares in many thousands of individual domestic and international companies, a proxy advisory firm must have sufficient scale to provide voting recommendations for many proposals for this large number of firms. Thus, there are substantial fixed costs to start a competitor firm and the prospects of success are likely to be low given the "first mover" advantages of the two largest firms (ISS and Glass Lewis). The proxy advisory industry has the classic oligopoly structure.

have little incentive to conduct costly research to ensure that their recommendations are correct. Such research will decrease the profitability of advisory firms but will have no substantive impact on their ability to attract new mutual fund customers. Unfortunately, if proxy advisory firm policies regarding corporate governance are incorrect and they are adopted by firms in order to obtain a majority of votes for management proposals, these policies will impose a real economic cost on individual firms and the economy as a whole.

The proxy advisory firms claim that these conflicts do not affect their voting recommendations. For example, the stated mission of ISS is one of "enabling the financial community to manage governance risk for the benefit of shareholders.[5]" Similarly, Glass-Lewis claims that their shareholder voting recommendations are developed with a "focus solely on the best interests of investors."[6] However, critics argue that the lack of transparency into the specific voting policies of the proxy advisors makes it impossible to verify these claims. They also contend that proxy advisors' simplistic practice of applying a single set of policies across all firms, without considering the nuances and circumstances unique to each firm will lead to voting recommendations that are not aligned with shareholder interests (National Investor Relations Institute, 2010). Interestingly, Securities and Exchange Commission (SEC) Chairwoman Mary Schapiro recently noted that the SEC will:

> "…be examining the role of proxy advisory firms. Both companies and investors have raised concerns that proxy advisory firms may be subject to undisclosed conflicts of interest. In addition, they may fail to conduct adequate research, or may base recommendations on erroneous or incomplete facts.[7]"

Recent regulatory changes have substantially *increased* the influence of proxy advisory firms with regard to approval of equity compensation plans for public companies. Specifically,

[5] www.issgovernance.com/about (accessed January 26, 2011)
[6] www.glasslewis.com/solutions/proxypaper.php (accessed January 26, 2011)
[7] Speech by Mary Schapiro, from *NACD Directorship Magazine*, Dec. 2010/Jan. 2011, p. 48

revised exchange listing requirements for the NYSE and NASDAQ adopted in 2003 require majority shareholder approval for new equity compensation plans or material modifications of existing plans. In addition, these equity plan proposals are now considered "non-routine" and broker non-votes (shares held in street name that are not directed by the investor) cannot be simply voted in favor of this management proposal. Finally, the 2003 SEC requirement that mutual funds disclose their votes on shareholder proposals (and their associated voting policies), combined with an SEC interpretation that investment advisors can meet their proxy voting requirements by using a proxy advisory firm motivated many mutual funds to rely on proxy advisory firms such as ISS and Glass-Lewis (Center on Executive Compensation, 2011). Thus, the voting recommendations by proxy advisory firms can have a substantial impact on the ability of firms to adopt new, or extend existing, equity plans for compensating executives.

The purpose of this study is to examine the role of proxy advisors in the specific context of stock option exchanges, where firms replace underwater stock options with new awards of options, restricted stock and/or cash.[8] We restrict our investigation to this specific transaction because it is a relatively simple, one-time transaction where the set of design choices are well defined and can be collected from SEC filings. In addition, the precise criteria used by ISS in making the voting recommendation are known, and we can observe the degree to which an option exchange follows or deviates from their criteria.[9] Finally, there is considerable variation across the firms in the structure of their exchange programs and the influence of ISS on proxy

[8] The terms "repricing" and "exchange" are often used interchangeably. Historically, the transactions designated as repricings have been a subset of the transactions we refer to as exchanges. We use the term "repricing" to mean a transaction in which the strike price of an outstanding stock option is reduced, and "exchange" to mean a transaction in which an underwater option is replaced with any new award, including stock options with lower exercise prices (i.e., repricings).

[9] As is discussed in more detail in section 2.3 below, we focus on ISS policies because they are the market leader in the industry over the period we are investigating (giving them the greatest influence on firms' design choices), and because they more clearly define their specific rules and disclose their actual voting recommendations, whereas their nearest competitor, for instance, does not.

voting outcomes. This enables us to examine the performance implications of plan design choices and the role of ISS in these transactions.

Our analysis is based on a comprehensive sample of 264 stock option exchanges announced between 2004 and 2009. For each exchange offer, we measure the degree of conformity to ISS' guidelines by comparing the observed design to the set of restrictions required by ISS in order to receive a favorable voting recommendation. We then assess whether the degree of conformity with ISS voting criteria is related to subsequent firm performance and executive turnover.

Our analysis produces four important results. First, we find that the stock market reaction to the introduction of exchange plans is positive, but *decreasing* in the extent to which the exchange plan conforms to ISS guidelines. Second, we document that the increase in operating performance associated with introduction of exchange programs is a *decreasing* function of the degree of conformity with the ISS voting framework. Third, we show that firms with exchange plans that more closely follow ISS requirements experience *higher* executive turnover than firms with less restrictive plans. Finally, patterns in insider trading activity during the months prior to the introduction of the exchange programs suggest that insiders' expectations about the effect of these programs are consistent with these results. Specifically, insiders are net buyers for firms conducting exchanges with positive performance consequences. These results are consistent with the conclusion that compliance with ISS guidelines on stock option exchanges limits the recontracting benefits of these transactions and are *not* value increasing for shareholders.

The remainder of the paper consists of four Sections. Section 2 discusses the institutional background and related prior research. Section 3 develops our measures and econometric approach. Our results are presented in Section 4. Section 5 provides concluding remarks.

2. Institutional background and review of prior literature

2.1 Accounting issues and stock option recontracting

Prior to 1999, stock option recontracting was commonly implemented as a "straight repricing" in which the strike price of outstanding underwater stock options was unilaterally reduced to the current market price or a slight premium to the current market price with no other changes to the option contract. Direct disclosure in this time period was driven primarily by the SEC's 1992 proxy disclosure rules, which required a repricing to be disclosed in the proxy statement if the repricing transaction involved named executive officers (NEOs). However, if NEOs did not participate in the transaction, it did not have to be explicitly disclosed in the proxy statement and the annual report did not necessarily include specific information about the repricing. Even if the existence of a repricing was disclosed, it was not possible to identify the date these programs were known to the public. Straight repricings were favored in these transactions because there was no charge to earnings[10] as long as the new exercise price was greater than or equal to the stock price when the transaction occurred, the transaction could be executed without the option holder's approval and without a formal tender offer filing because the transaction was unequivocally beneficial to the option holder.

Stock option repricings in the period before 1999 were highly controversial[11]. Critics argued that option repricings were mechanisms used by entrenched managers to extract rents from shareholders by reducing the downside risk of their compensation contracts. Consistent with this view, Brenner, Sundaram, and Yermack (2000) find a negative relation between firm performance and repricing activity and Chance, Kumar, and Todd (2000) find repricings to be

[10] Under APB 25, stock options were not recognized as an expense provided the strike price was greater than or equal to the stock price on the date of grant.

[11] See for example 'Big investor wary of stock-pay moves' by Bridge News, *The New York Times*, October 27, 1998; 'Key case for stock option repricing; Wisconsin dispute puts the focus on shareholders' OK' by Scott Herhold, *San Jose Mercury News*, April 1, 1998.

positively associated with insider-dominated boards and other proxies for agency problems. However, Acharya, John, and Sundaram (2000) argue that allowing some exchange of underwater stock options is almost always *ex ante* optimal relative to a commitment to not adjust initial contracts after they have gone underwater. In support of this perspective, Carter and Lynch (2004) find that repricing leads to lower non-executive turnover, and Aboody, Johnson, and Kasznik (2010) show that firms that exchange underwater options have larger subsequent increases in operating profits and cash flows.[12] Finally, Chidambaran and Prabhala (2003) find that 40% of repricing firms exclude the CEO from the transaction, which is inconsistent with the entrenchment explanation. Overall, prior research provides mixed results about the impact of repricings on shareholder value.

Effective for fiscal years beginning after December 15, 1998, the Financial Accounting Standards Board (FASB) required companies implementing a repricing or a cancellation and re-grant of outstanding stock options within a "short period" to recognize a charge to earnings.[13] It was ultimately determined that a "short-period" was six months, leading to what have been termed "6+1" or "6-months-and-a-day" repricings.[14] Since a tender offer was generally required to execute the repricing (because the transaction was not unequivocally beneficial to the option holder), firms began to consider exchanges in which fewer shares were promised in return, or in which additional vesting conditions were attached to the new awards compared to the original. However, stock options remained the predominant award currency as firms desired to maintain the favorable accounting treatment of stock options over other alternatives. Coles, Hertzel, and

[12] Grein, Hand, and Klassen (2005) also document that Canadian firms that reprice between 1994 and 2001 have significantly positive market adjusted returns around the announcement.
[13] Carter and Lynch (2003) document that repricing increases during and decreases after the period between the announcement and effective dates of this change in the accounting standards.
[14] In a 6+1 repricing, employees agree to have some or all of their underwater stock options cancelled, and in return, are granted new options at the then-current market price six months and one day after the original options are cancelled. As long as the new award is in stock options priced at or above the current market price, the 6+1 transaction maintained the no accounting charge treatment for the original awards.

Swaminathan (2006) show that the 6+1 repricing transactions created incentives for firms to depress their stock price prior to the reissuance date by reporting abnormally low discretionary accruals in the period following announcements of cancellations of executive stock options up to the time the options are reissued[15].

Finally, in 2005 the FASB required public companies to adopt FAS 123-R. The new standard required that the grant date fair value of all equity awards be recognized as stock-based compensation expense. In the case of modifications to awards, including repricings and exchanges, any increase in fair value of the awards as a result of the modification must also be recognized as an expense. The impact of FAS 123-R on stock option recontracting has not been examined in the academic literature.

2.2 Regulatory changes and the increased importance of proxy advisory firms

In 2003, both the NYSE and NASDAQ changed their listing requirements to generally require that any new equity compensation plan or any material modification to an equity compensation plan receive shareholder approval. Unless the ability to reprice or exchange stock options was *explicitly* provided for in a shareholder-approved plan, such a transaction was considered a material modification and required shareholder approval.[16] The listing requirement also required proposals regarding equity incentive plans to be classified as "non-routine." This meant that shares held in street name, which were not directed by the actual owner, could not be voted by the broker on these matters (these are the so called "broker non-votes"). Prior to this,

[15] This is consistent with the findings of Aboody and Kasznik (2000) that management may make opportunistic disclosure decisions in an attempt to maximize the value of a scheduled future equity award.

[16] Explicit authority to conduct an exchange without shareholder approval is generally opposed by proxy advisory firms (see, for instance, RiskMetrics Group, 2010, p. 43, and Glass, Lewis & Co., 2010, p. 7). Firms with this provision tend to be those with plans that were approved prior to the regulatory changes, or those with less exposure to proxy advisory recommendations. For instance, plans approved by shareholders prior to a firm's IPO do not receive opinions from proxy advisory firms, and many include the authority to conduct an exchange.

broker non-votes were very often cast in favor of equity compensation plan proposals.[17] Because retail investors frequently do not vote their shares (and do not direct the broker to vote), this change further concentrated the weight of institutional investor votes in the approval of stock plans and stock option exchanges.[18]

Also in 2003, the SEC implemented a requirement for mutual funds to disclose their voting on all shareholder proposals, as well as the policies and procedures used to determine the vote (SEC, 2003a). One objective of the new disclosure requirements was to encourage mutual funds to become more active in monitoring firms through the proxy voting mechanism. However, the primary objective was to reduce conflicts of interest between financial services firms operating mutual funds and the funds' shareholder interests.[19] Possible conflicts of interest may arise from other business dealings of the parent firm of the mutual funds. For instance, fund families may be owned by diversified financial services firms offering investment banking and corporate banking services. The proxy votes in these firms might also be motivated by the potential opportunities to sell additional investment services to a firm, such as pension management, as opposed to increasing shareholder value.

At the same time, the SEC issued an interpretation that the use of proxy voting policies developed by an independent third party (i.e., proxy advisors) would be deemed free of a conflict

[17] For example, Bethel and Gillan (2002) find that routine management proposals receive 8% more votes favorable to management and 10.3% higher vote turnout compared to non-routine items in the 1998 proxy season.

[18] As an example of the impact of this rule change, assume that a firm has 100 shares, there are 18% broker non-votes (the average broker non-votes represented 18% of the shares eligible to vote in the meetings we examined), and assume that proxy advisors will drive 30% of the vote with recommendations against. In order to pass a compensation plan, management requires affirmative votes of 50% of voting shares. In this example, there are 82 voting shares (100-18). Since the proxy advisors control 30 shares, management requires 41 of the remaining 52 (79%) in order to pass a proposal. This compares to the prior period in which broker non-votes were counted toward compensation plans, management required 32 of the uncontrolled 52 votes (62%) in order to pass a proposal that proxy advisors did not support.

[19] Rothberg and Lilien (2006) and Davis and Kim (2007) investigate conflicts of interest in mutual fund voting after implementation of the voting disclosure rules and do not find any evidence of conflicts under the new rules. However, because voting records are unavailable prior to the disclosure rules, they cannot determine whether conflicted voting existed prior to the rules.

of interest and would meet mutual funds proxy voting obligations.[20] As a result, many mutual funds began to rely more heavily, and even exclusively, on the recommendations of third-party proxy advisory firms when they might be perceived to have conflicts of interest arising from other business dealings with the corporations (Belinfanti 2010).

Choi, Fisch, and Kahan (2009) examine the role of proxy advisors in uncontested director elections and find significant differences between the likelihood of issuing a withhold recommendation across proxy advisory firms. Alexander, Cehn, Seppi, and Spatt (2010) examine the effect of ISS voting recommendations on contested director elections, and conclude that an ISS recommendation in favor of the dissident slate can serve as both an indicator for the likelihood that the dissident slate is elected and as a certification of the value of the dissidents to shareholders.[21] Morgan, Poulsen, and Wolf (2006) investigate trends in shareholder voting on management sponsored compensation programs. Over the period from 1992 to 2003, affirmative voting for these management sponsored proposals declined, and in particular, negative vote recommendations of a proxy advisory firm resulted in a 20% increase in negative votes cast. Similarly, Bethel and Gillan (2002) and Cai, Garner, and Walking (2009) find that a negative ISS recommendation on a management proposal can sway 13.6% to 20.6% and 19% of votes respectively.[22] Clearly, negative voting recommendations by proxy advisory firms have the potential to impact outcomes for management proposals.

[20] See the discussion by the Center on Executive Compensation 2011 (pp. 17-19) regarding mutual funds' fiduciary duties in voting proxies.

[21] The setting of contested elections, however, is quite different from that of stock option exchanges, particularly as it relates to ISS. ISS has a separate research team for evaluating contentious M&A transactions and proxy contests. This team will also engage in active dialog with the interested parties, including the firm, the dissidents and significant investors as part of the recommendation determination process (Winter, 2010). This contrasts with the process of evaluating stock option exchanges, in which the proposed programs are compared to a somewhat rigid set of guidelines that are applied across all companies, and direct input from interested parties is not sought.

[22] Other research on proxy advisors that is relevant to our study include Bhagat, Bolton and Romano (2007), who examine various indices of corporate governance, including those provided commercially by subscription, and conclude that the process of using fixed rules to convert governance into a single measure does not reflect the flexible regulatory regime of corporate governance in the U.S. Daines, Gow and Larcker (2010) show that there is

2.3 Option exchanges and evaluation criteria used by proxy advisory firms

Since 2005, traditional option repricing has been substituted for a new type of stock option recontracting, known as "option exchanges." These new transactions have a specific set of design features that either did not exist or were not observable in the typical implementation of traditional repricing transactions examined in previous research.[23] The typical design of option exchanges varies along the following dimensions: (i) exercise price of options eligible for exchange (*Price-Floor*) – relative to select benchmarks such as the current stock price or the 52 week high; (ii) vesting schedule (*Vestin*g) – whether the vesting schedule is similar to the terms for the tendered options; (iii) participation (*Eligibility*) – whether NEOs and directors can participate in the exchange; (iv) exchange value (*Value-for-Value*) – the value of the awards offered relative to the value of the tendered options; (v) issuance date of options eligible for exchange (*Issuance-Date*) – whether options granted in the prior year are eligible for exchange; (vi) treatment of cancelled shares (*Share-Restrictions*) – whether shares forfeited in the exchange transaction are available for future equity grants; and (vii) exchange currency – the type of award offered in return for tendered options.[24] Appendix A provides two exchange program examples: Intel (required shareholder approval) and Limelight Networks (no shareholder approval required).

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little useful information for shareholders in governance ratings and they show that there is also little relation between the governance ratings of ISS and their proxy voting recommendations.

[23] An additional factor effecting the design and execution of exchange programs are the tender offer rules. In general, unless a firm simply reduces the exercise price, without changing any other terms of the outstanding underwater options, or limits participation to a small group of employees (e.g., five to ten in number), an exchange program must be executed through a tender offer. Under the tender offer, employees may choose whether or not to participate in the exchange program. Tender offers require timely filing of all relevant communications, enhancing our ability to identify the dates these programs become public knowledge.

[24] Because ISS does not have a policy position on the award currency used in stock option exchanges, we do not consider the choice of award currency to be a restriction on the plan design (see Appendix B for details on the ISS policies).

ISS has stated policy positions on all of the above design choices except for the exchange currency (see Appendix B for details on ISS exchange program policies).[25] These policies restrict certain practices related to exchange programs under the assumption that those practices are inappropriate rent-extraction from shareholders to management. For example, transactions where the value of the tendered options is lower than that of the securities received in exchange are considered value expropriating by ISS. As illustrated in Appendix C, firms appear to adopt these restrictions (and thus restrict the range of feasible contracts for stock option exchanges) to avoid negative voting recommendations on option exchanges that require shareholder approval. Even in cases where an equity plan does not require shareholder approval for option exchanges, the board might limit plan designs to be consistent with proxy advisor voting criteria to avoid future negative voting recommendations on management proposals or director elections. Whether these proxy advisors' voting recommendations increase value to shareholders is an important public policy question that has not been examined in prior work. It is possible that the restrictions on the characteristics of option exchange programs advocated by proxy advisory firms prevent inefficient value transfers from shareholders to managers. However, it is equally plausible that those policies prevent firms from implementing the exchange program that would be most appropriate given the specific characteristics and circumstances of those firms. If the

[25] http://www.usbank.com/pcg/pdf/US2006SummaryGuidelines.pdf (accessed January, 2011). Other proxy advisory firms, such as Glass Lewis, have similar rules-based policies as well as consistent public policy positions on some of the design choices, (e.g. officers and directors must be excluded (*Eligibility*) and the exchange must be *Value-for-Value*), as well as additional proprietary restrictions. Glass Lewis' 2010 policy on stock option exchanges was:
"Option exchanges are reviewed on a case-by-case basis, although they are approached with great skepticism. Repricing is tantamount to a re-trade. We will support a repricing only if the following conditions are true:

- Officers and board members do not participate in the program.
- The stock decline mirrors the market or industry price decline in terms of timing and approximates the decline in magnitude.
- The exchange is value neutral or value creative to shareholders with very conservative assumptions and a recognition of the adverse selection problems inherent in voluntary programs.
- Management and the board make a cogent case for needing to incentivize and retain existing employees, such as being in a competitive employment market."

(Glass, Lewis & Co., 2010).

latter case were more prevalent in practice than the former, adopting a "one-size-fits-all" approach would result in lower shareholder value in firms that comply with the exchange program policies used by proxy advisory firms. In contrast, if the former case is more descriptive, compliance with the proxy advisor policies should increase shareholders value. The purpose of this paper is to provide evidence on the shareholder value consequences of complying with proxy advisor voting criteria.

3. Sample and measurement choices

3.1. Sample construction

Our initial sample consists of 272 stock option exchanges announced between December 2004 and December 2009. These observations were identified using searches of SEC filings and press releases. The data includes the date of the exchange, program design details which we use to identify the individual components of compliance with proxy advisory firm policies, and the outcome of the shareholder votes where applicable, all of which is collected from SEC filings. Four dates were collected for each sample firm from SEC filings: (i) the date of the first disclosure related to the option exchange (*Announcement*), (ii) the date the program was approved by shareholders or the board of directors (*Approval*), (iii) the date the exchange program was actually implemented (*Implementation*), and (iv) the date the exchange program was closed (*Close*).

We collect data on daily stock returns from the CRSP Quarterly Update daily stock file and accounting data from Compustat. The intersection of these datasets results in 251 firms and 264 exchange transactions. The distribution of our sample over year and industry sector is presented in Table 1 (Panel A). Examining the industry distribution, firms conducting exchanges are concentrated in the technology sector. This is an expected result since technology firms rely

on stock options more heavily as a component of compensation, and use them more broadly across the organization than firms in other industries. The distribution by year shows a noticeable increase in the transactions in 2008 and 2009, mirroring the sharp decline in general market price levels in conjunction with the financial crisis.

Descriptive statistics for the firms conducting exchanges are presented in Table 1. For the total sample of 264 firms, 116 firms (43.9%) implemented the plan without shareholder approval, and 148 firms (56.1%) sought shareholder approval for their exchange program. We observe that 91.9% of the plans that require shareholder approval obtain the necessary votes, with the average votes in favor being 73.8%. ISS issued a negative recommendation in 11 out of the 12 plans that were not approved by shareholders.[26] With the exception of those plans not approved by shareholders, most of the plans are implemented by the firms.

We observe that the average percentage of options eligible for the program and the percentage of options that are actually exchanged are slightly higher for firms without shareholder approval (Table 1, Panel B). For exchanges that do not require shareholder approval, the mean (median) transaction takes 51 (31) calendar days to complete, for exchanges that do require shareholder approval the mean (median) length of the time to complete the transaction is 118 (98) days.[27] Panel B also shows that the number of cases where the exchange was not implemented is higher among exchanges requiring shareholder approval.

3.2. Measurement of the restrictiveness of the exchange plan

[26] Our sample includes plans that were proposed to shareholders then withdrawn from consideration prior to the shareholder vote. We consider these plans to have not been approved. Our results are not sensitive to including or excluding these firms.

[27] There are two primary factors leading to the length of time needed to execute an exchange. The first is that most of the exchanges are conducted via a tender offer. The tender offer must be filed with the SEC and the offer must stay open for a minimum of 20 days. The second factor is shareholder approval for those firms that submit the plan to shareholders. The plans are submitted to shareholders in the proxy statement in advance of the shareholders meeting. This is typically accompanied by communication to employees regarding the proposal and its potential impact on them. In most cases firms do not begin the tender offer period until after the approval has been granted.

We measure the restrictiveness of the exchange plan using six criteria used by ISS to determine voting recommendations regarding stock option exchanges (see Appendix B). Specifically, we construct six indicator variables that measure whether the stock option exchange plan is constrained along each of the six dimensions. *Price-Floor* equals 1 if there is a price floor restricting the exercise price of eligible options to be strictly greater than the then-current stock price and 0 otherwise. *Vesting* equals 1 if the new awards have a vesting period at least equal to the greater of 6 months, or the remaining vesting on the original award and 0 otherwise. *Eligibility* equals 1 if officers or directors are excluded from the program and 0 otherwise. *Value-for-Value* equals 1 if the value of the new awards is less than or equal to the value of the awards being tendered and 0 otherwise. *Issuance-Date* equals 1 if options issued within a certain period before the exchange (e.g., grants made within the year prior to the exchange) are not eligible and 0 otherwise. *Share-Restrictions* equals 1 if the proposal restricts the use of cancelled shares, 0 otherwise. To measure the restrictiveness of the exchange program, we construct the variable *Restrictive* as the sum of the previous six indicator variables. The *Restrictive* variable ranges from 0 to 6, with a higher value indicating that the exchange program more closely aligns with proxy advisory firm voting criteria.

In Table 2 (Panel A), we find that, on average, firms not requiring shareholder approval implemented plans with 2.75 restrictions compared to 3.66 for firms requiring shareholder approval ($p < 0.001$, two-tail). All six types of restrictions are more frequent in exchanges that require shareholder approval than in those that do not. Two of the exchanges do not have any restrictions, and were approved by shareholders despite ISS's negative recommendation. One explanation for this result is that these two companies had very low levels of mutual fund

ownership in the year of the exchange and thus were subject to little influence from ISS.[28] Finally, only 38.68% of the plans requiring shareholder approval receive a favorable recommendation from ISS.[29]

The existence of restrictions in the exchange plan is strongly associated with obtaining a favorable voting recommendation from ISS. For example, in Table 2 (Panel B), exchanges with fewer (greater) than four restrictions are rarely (generally) supported by ISS. ISS never supports exchanges where officers and directors can participate and where the new securities have no additional vesting schedule (Table 2, Panel C). Although satisfying *Issuance-Date* and *Share-Restrictions* are not necessary conditions to obtain favorable ISS support, the absence of these restrictions substantially reduces the probability of obtaining ISS support. The regression results in Table 2 (Panel D) confirm that each of the six restrictions significantly increases the probability of obtaining ISS support. The analyses in Table 2 provide evidence that ISS does actually use the criteria illustrated in Appendix B when forming their voting recommendations on option exchange programs.[30]

One problem with the traditional regression approach in Table 2 (Panel D) is that a simple linear (or log-linear) structure cannot capture the likely complex nonlinearities and interactions among the independent variables. As an alternative, we analyze our data with exploratory recursive partitioning. Recursive partitioning models are constructed by successively

[28] The two companies are Verenium Corp. and Paramount Gold & Silver Corp. The former does not have any mutual fund in their ownership structure and is mainly owned by insiders and venture capital investors. The latter has only 7% mutual fund ownership and close to 12% insider ownership.

[29] We collect ISS voting recommendations from the Voting Analytics database for 97 exchanges. We obtain voting recommendation data directly from ISS for an additional 40 firms. We were not able to obtain data from ISS on the remaining 11 transactions (out of the 148 exchanges requiring shareholder approval) because those companies are either not covered by ISS, the plans were approved through special votes executed by written consent of a majority shareholder (i.e., they never went to a general vote), those transactions were wrapped in other transactions (such as an amended equity plan) and were not coded by ISS as option exchanges. Our results are not affected by the inclusion or exclusion of these 11 somewhat unique transactions.

[30] Similar to Cai, Garner, and Walking (2009), we find that a favorable ISS voting recommendation significantly increases the percentage of votes in favor of the exchange.

splitting the data into increasingly homogeneous subsets. At each step, the independent variables are examined and the one that gives the "best" split is selected. The splitting process is terminated based on selected traditional "stopping rules." Recursive partitioning ultimately produces a tree-like structure that allows nonlinear and interactive associations between the ISS recommendation and the set of restriction variables.

The resulting decision model is illustrated in Figure 1 where each restriction increases the conditional probability of receiving a favorable recommendation from ISS. Figure 1 reveals that this alternative methodological approach is able to explain approximately 80% of the ISS voting recommendations.[31] The remaining 20% could be the result of idiosyncratic assessments for exchange plans or firm characteristics that are not publicly observable. The results in Table 2 and Figure 1 indicate that there is modest discretion in the way ISS produces its voting recommendations (i.e., ISS essentially appears to use a "one size fits all" or "checkbox" approach in their analysis).

Based on this analysis, we develop two indicator variables for the ISS recommendation. *ISSfor* equals one if ISS actually issues a favorable recommendation for the exchange plan and zero otherwise. Although this is an accurate measure for the recommendation, it only exists for the subset of companies where shareholders actually voted on the option exchange plans. In order to expand our sample to the remaining firms, we use the recursive partitioning model in Figure 1 to estimate the ISS recommendation given a set of plan restrictions. Although this is an estimate of the likely ISS recommendation, we believe that the high explanatory power of the recursive partitioning model make this a reasonably accurate assessment for the recommendation. We define *ISSforPred* as equal to *ISSfor* if there is an actual ISS voting

[31] All the restrictions except *Eligible* appear to be instrumental in producing the voting recommendation. In additional analysis we find that, using recursive partitioning, the variation in *Eligible* can be explained almost entirely by the other five restrictions.

recommendation for that exchange and equal to the predicted value from the recursive partitioning analysis if ISS never issued a recommendation for that exchange. We use this variable in our tests as complement to *Restrictive*. While *Restrictive* measures the degree of conformity to the set of six individual ISS criteria, *ISSforPred* measures the conformity relative to the underlying decision model used by ISS when making a "for" or "against" recommendation.

3.3. Measurement of the influence of ISS on shareholder voting

One useful measure for our analysis concerns the extent to which management and the board of directors is concerned about the recommendation provided by ISS. Clearly, if the firm has very limited institutional ownership, the recommendations of ISS might be largely irrelevant when making design decisions for option exchange programs. Similarly, if institutional holders for a firm do not follow ISS recommendation, ISS will have limited influence on the management and the board of directors. Thus, it is necessary to develop a measure for the likely influence of ISS on the institutional shareholders for each firm in our sample.

Using voting data obtained from the ISS Voting Analytics database, we compute for each firm the proportion of their institutional investors that follow the ISS vote recommendation in those cases where there is a disagreement between the management and ISS vote recommendations. Specifically, *Pct(ISS ⁄disagreement)* is computed as the proportion of institutional investors whose vote coincides with the ISS recommendation when there is a disagreement. To compute this variable, we use institutional investor voting data on all the shareholder proposals for each firm during the three fiscal years prior to the stock option exchange.

We are able to obtain institutional voting results for 178 firms in the sample. This occurs because the Voting Analytics database only contains vote results for *Russell 3000* companies, and some of the sample companies are not Russell 3000 companies. For 56 of the 178 firms, we do not find any cases of disagreement between management and ISS voting recommendations. For these 56 firms, we measure *Pct(ISS │disagreement)* as the proportion of institutional investors whose vote coincides with the ISS recommendation in cases where the ISS and management recommendations are the same.[32] The mean (median) values of this variable are 0.74 (0. 80) in firms that do not require shareholder approval and 0.80 (0.82) in firms that require shareholder approval (Table 1, Panel C). These values suggest that most of the institutional investors in our sample of firms follow ISS recommendations in cases of disagreement with management recommendations.

3.4. Control variables

In our tests, we include a set of control variables found in previous literature to be associated with characteristics of compensation contracts and repricing of stock options (e.g., Core and Guay, 1999; Core, Holthausen, and Larcker, 1999; Carter and Lynch, 2001). *Size* is the natural logarithm of the market value of equity (in millions). *BM* is the book to market ratio. *Leverage* is total liabilities divided by total assets. *IdVol* is the idiosyncratic volatility, computed as the standard deviation of the residuals in a regression of daily returns on the value–weighted market return over 365 days prior to fiscal year end. *Beta* is the coefficient in a regression of

[32] The results are not sensitive to the estimating the measure over the two or four fiscal years prior to the exchange. Excluding the 56 firms without a disagreement from the analysis or using for all firms the proportion of institutional investors whose vote coincides with ISS regardless of whether there is disagreement leads to similar inferences. Also, our primary measure is constructed at the mutual fund family level, but the inferences do not change when we weight *Pct(ISS│disagreement)* by the number of individual funds within a fund family that are invested in the firm. Finally, when we multiply *Pct(ISS│disagreement)* by the percentage of firm shares owned by institutions with ownership disclosure requirements and obtain similar results (ownership data is not contained in Voting Analytics and this analysis reduces the sample of institutional owners).

daily firm return on the value-weighted market return over 365 days prior to fiscal year end. *ROA* is operating income divided by total assets. *PastReturn* is the annually compounded stock return over the previous fiscal year. To control for industry affiliation, we include in the model *IndustryROA* and *IndustryRet.* *IndustryROA* is the median *ROA* of all firms in the same two-digit SIC code in the fiscal year previous to the exchange. *IndustryRet* is the median annually compounded stock return of all the firms in the same two-digit SIC code over the fiscal year previous to the exchange.

We include *Ninstit*, defined as the number of institutions holding shares in the firm, to control for the possibility that *Pct(ISS disagreement)* could be capturing the intensity of shareholder monitoring by institutional investors and not the specific influence of proxy advisory firms' voting recommendations. To control for investors' monitoring incentives, we also include *Nactivists*, i.e., the number of activist investors, as defined by Cremers and Nair (2005), holding an ownership position in the firm. Data on institutional ownership are collected from the Thomson-Reuters database of 13-F filings (CDA/Spectrum).

As noted in Section 2, it is not necessarily the case that a firm requires shareholder approval to conduct an exchange. If the firm's equity incentive plan (as approved by shareholders) explicitly permits an exchange program without shareholder approval, it can be executed only with the approval of the board of directors. We expect that plans are more likely to contain this provision if they were approved by shareholders at a time when proxy advisory firms had less influence on a firm's voting outcomes. Using information from public disclosures, we construct *EIPlandate* as a dichotomous variable equal to 1 if the most recently approved equity incentive plan in effect at the time of the exchange was approved by shareholders either prior to 2003 or prior to an IPO, and 0 otherwise. Prior to 2003, the changes in the shareholder monitoring environment had not taken place, providing firms with greater

ability to implement equity incentive plans that did not meet the requirements of proxy advisory firms. Also, plans approved by shareholders prior to IPO (i.e., while the firm is private) are typically not covered by the proxy advisory firms.

Since a firm that is more reliant on stock option compensation will have greater incentive to conduct an exchange, we also include a measure of the extent to which the firm uses stock options in its compensation contracts. In particular, *Options* is calculated as the total number of stock options outstanding at the end of the fiscal year, scaled by total shares outstanding.

To assess the impact of corporate governance on our tests, we include a variety of variables widely used in the corporate governance literature. *ExcessComp* is the total annual pay for the CEO (measured in millions) less the median total annual pay for all CEOs in that year for all firms with the same two-digit SIC code and in the same size quintile.[33] *BoardCharact* is a vector of the traditional structural board characteristics. *Num directors* is the number of directors on the Board. *PctIndepDirectors* is the percentage of Board members classified as independent directors (i.e., not insiders or affiliated). *PctBoardOld* is the percentage of Board members who are at least 69 years old. *PctBoardBusy* is the percentage of Board members who serve on at least two other Boards of Directors. *OutsideChair* is an indicator that equals one if the Chairman of Board is classified as an outsider and zero otherwise (where outsiders are not involved in the management of the company and do not have substantial business dealings with the company). *PctApptdCEO* is the percentage of Board members classified as outsiders who were appointed after the current CEO's term began. *PctFoundDirs* is the percentage of Board members who are founders of the company. Following Core, Holthausen, and Larcker (1999) and other governance studies, we expect stronger Board governance to be positively related to

[33] Total annual pay is computed as the sum of salary, annual bonus, Black-Scholes value of stock options (using FAS 123R parameters), expected value of long-term performance plans (as disclosed in the proxy statement), and expected value of restricted stock grants.

OutsideChair and *PctIndepDirectors*, and negatively related to the other Board characteristic variables. Data on board composition and executive compensation are obtained from a comprehensive database provided by Equilar Inc. We are able to construct these variables for 187 of the exchanges in our sample.

CharterRules is a vector of two additional variables for Board charter rules that activist shareholder groups and governance research suggest are important antitakeover indicators of governance effectiveness. First, *Staggered* is an indicator for whether the company's Board members are all elected annually or whether they are elected to staggered, multiyear terms. Second, *Dual Class Shares* equals one if the company has multiple classes of shares with unequal voting rights. We construct these variables using a database provided by FactSet Research Systems, Inc, which covers 235 of the sample firms.

Descriptive statistics for our control variables between firms requiring shareholder approval and those who do not are presented in Table 1 (Panel C). In general, the two groups exhibit relatively similar market value and book-to-market ratio. However, firms requiring shareholder approval are more leveraged and experienced lower returns than those not requiring shareholder approval. Regarding equity ownership variables, the significant difference in *Pct(ISS| disagreement)* between the two groups of firms suggests that ISS's influence is more important among firms that require shareholder approval of option exchanges than among firms that do not. Table 1, panel C, also shows that *EIPlandate* is higher among firms where shareholder approval for option exchanges is not required. This is consistent with the notion that shareholder approval for option exchanges is lower in firms with equity plans approved before the change in regulatory setting imposed by the SEC, NYSE and NASDAQ. Table 1 (Panel C) also shows that firms requiring shareholder approval have a larger number of activist investors, and that the use of options as a compensation vehicle is less intensive among firms requiring

shareholder approval than among firms that do not. In terms of governance, firms requiring shareholder approval have larger boards, a higher percentage of busy board members, and less use of staggered board structure.

4. Results

4.1. Cross-sectional variation in the characteristics of stock option exchange programs

Our first test examines the influence of proxy advisory firms on the restrictiveness of option exchange programs. Specifically, we estimate the following ordered logistic regression[34]:

$$Restrictive = \delta_0 + \delta_1 Pct(ISS|\ disagreement) + \delta_2 ApprovalReq + \theta\ Controls + \varepsilon. \quad (1)$$

We expect that firms in which ISS has greater influence on voting outcomes will design more restrictive plans (i.e., $\delta_1 > 0$). *ApprovalReq* is a dichotomous variable equal to 1 if the firm submitted a proposal to shareholders for approval of the plan, and 0 otherwise. *ApprovalReq* is included to test whether exchange programs that require shareholder approval are more likely to be more restrictive than those that do not require shareholder approval after controlling for other potential determinants. We expect that firms will design a more restrictive plan if shareholder approval is required in order to ensure that the plan is passed (i.e., $\delta_2 > 0$). *Controls* is a vector including the control variables described in Section 3.4.

The estimation results for equation (1) are presented in Table 3 (Panel A). The statistically positive coefficients of *Pct(ISS| disagreement*) and *ApprovalReq* indicate that firms in which proxy advisory firms have more influence and where the exchange plan has to be approved by shareholders are more likely to include restrictions in their exchange programs.

[34] Firm level subscripts have been suppressed throughout the text. Unless noted otherwise, all regressions are cross-sectional analyses.

Thus, proxy advisory firms have a substantive impact on the design of option exchange programs.[35]

Finally, we examine whether the restrictiveness of the plan affects the implementation of a plan (as opposed to being window dressing). Specifically, we test whether restrictiveness is associated with the percentage of total outstanding stock options that are eligible for the exchange program and the percentage of eligible options that are actually exchanged. If the restrictions significantly limit the choice set of the board or reduce the attractiveness of the exchange offer to employees, we expect a negative relation between the restrictions and the dependent variables. We estimate the following equations using a double censored tobit regression:

$$PctEligible = \delta_0 + \delta_1 Restrictive + \theta Controls + \varepsilon. \quad (2a)$$

$$PctExchanged = \delta_0 + \delta_1 Restrictive + \theta Controls + \varepsilon. \quad (2b)$$

PctEligible is the number of stock options that are eligible for tender in the exchange program, divided by the total number of stock options outstanding at the start of the exchange. *PctExchanged* is the total number of stock options that were tendered in the exchange, divided by the number of stock options eligible for the exchange. For both tests, we expect that the coefficient δ_1 is negative.

The results of estimating equations (2a) and (2b) are presented in Table 3 (Panel B). The estimated coefficients on *Restrictive* are statistically negative. These results confirm that more restrictive plans translate into fewer options available to exchange and lower participation, which is consistent with the proxy advisor requirements meaningfully limiting the exchange program design.

[35] We also re-estimate equation (1) including the governance variables described in Section 3.4. Untabulated results reveal that only one governance variable, *DualClass*, is statistically associated with *Restrictive*. Thus, there is little evidence that firms with better corporate governance design more restrictive stock exchanges.

4.2. Market reaction to the introduction of stock option exchange programs

In the option repricings of the nineties, U.S. firms typically only disclosed repricings in their form 10-K or, if executive officers participated, in proxy statements months after the actual repricing date. In contrast, in the current regulatory setting, option exchanges generally require immediate filings (such as proxy statements where shareholder approval is required, tender offer filings, 8-K filings, and/or insider trading filings). This regulatory change makes it possible to more precisely isolate the market reaction to the introduction of exchange programs. If stock option exchanges represent an optimal recontracting transaction resulting in improved incentives for executives and if the restrictions related to the policies of proxy advisory firms prevent boards of directors from implementing the program that would have been optimal in the absence of these restrictions, the market reaction to the introduction of exchange programs should be negatively correlated with the restrictions. Alternatively, if unrestricted stock option exchanges are an avenue for rent extraction on the part of entrenched managers, restrictions imposed by proxy advisors should have a positive relationship with the market reaction.

We examine the market reaction to stock option exchange programs over the period from the first announcement of a program (*Announcement* date) to the close of the exchange offer (*Close* date), we refer to this time frame as the exchange period. We use the entire exchange period because various uncertainties regarding the plan are resolved over this time period. For instance, for plans that are submitted to shareholders, the plans must be approved by shareholders, and, conditional on approval, the board of directors must decide to implement the program. Since the length of the exchange period can vary, our dependent variable, *AdjRet*, is the average daily risk-adjusted return over the exchange period.[36] Because the exchange period

[36] We use the standard daily Fama-French model plus momentum to compute daily risk-adjusted returns. The coefficients of the risk factors are estimated using daily data over a period of -6 to +6 months around the

is defined by the close date, our sample for this analysis excludes firms that did not implement exchange plans subsequent to the announcement date.[37]

To test whether the stock market reaction to the introduction of stock exchanges is associated with the restrictiveness of the exchange programs, we first regress abnormal returns over the exchange period on *Restrictive*. We include *ApprovalReq* as a control for possible differences in market reaction to the plans based on whether or not shareholders had direct access to approval of the programs:

$$AdjRet = \delta_0 + \delta_1 \, Restrictive + \delta_2 \, ApprovalReq + \varepsilon \qquad (3)$$

To explore which restrictions drive the market reaction, we also decompose *Restrictive* into the six individual restriction variables: *Price-Floor, Vesting, Eligibility, Value-for-Value Issuance-Date,* and *Share-Restrictions*. Additionally, we repeat the analysis using two indicator variables for compliance to ISS's criteria using *ISSfor* and *ISSforPred* and explanatory variables.

The estimation results for equation (3) are presented in Table 4 (Panel A). We find that firms with more restrictive plans (*Restrictive*) exhibit statistically lower abnormal returns over the period of the exchange. Similarly, we find that the ISS recommendation (*ISSfor* and *ISSforPred*) exhibits a statistically negative association with abnormal returns.[38] Decomposing the variable *Restrictive* into its components (column 2) reveals that most of the six types of restrictions are negatively associated with abnormal returns, although none of the individual coefficients are statistically significant at conventional levels. Consistent with the recursive

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Announcement date. *AdjRet* is computed as the average of risk-adjusted returns over the days within the exchange period.

[37] Of the 264 firms in our sample, 22 did not implement their program. Of these 22 exchanges, 12 were not approved, and 10 were approved but not implemented by the Board. To check for possible selection bias induced by the non-implemented plans, we conduct subsequent event day tests for the *Announcement date* and *Approval date* which include all 264 observations.

[38] Model (3) has fewer observations because ISS issued a voting recommendation for 137 exchanges out of the 264 (see section 3.3 for more details).

partitioning analysis in Figure 1, this result suggests that the combination of restrictions leading to the ISS recommendation is important, rather than any individual restriction.

In Table 4 (Panel B), we examine the abnormal returns around critical dates in the exchange program. For each of the *Announcement*, *Approval*, and *Implementation* dates we repeat the previous tests computing *AdjRet* as the average abnormal return over the -5 to +5 trading day window around the respective date. Both the *Announcement* and *Approval* date tests include the entire sample of exchange companies. The *Implementation* date test only includes firms that implemented an exchange. Consistent with the results in Panel A, we find that a negative reaction to restrictions and ISS recommendation in small windows around the key dates of the exchange program.

Even in the absence of stock option exchanges, *Restrictive* and *ISSCompliant* could be related to daily returns if these variables capture omitted risk or another omitted determinants of the cross-section of returns that is correlated with the design of the exchange program. To address this concern, we form a panel with daily risk-adjusted returns from the six months prior to the announcement date and daily risk-adjusted returns over the exchange period. Next, we construct an indicator variable, *EPeriod,* which equals 1 for days within the exchange period and 0 otherwise. We form the interaction between *EPeriod* and *Restrictive, ISSfor,* and *ISSforPred* to test whether the association between abnormal returns and these variables is unique to the exchange period.[39]

The results in Table 4 (Panel C) confirm that the market reaction is unique to the exchange period. The statistically positive coefficient on *EPeriod* indicates that the abnormal returns during the period of the exchange are significantly higher than those in the period prior to the exchange. More importantly, the interaction between *EPeriod* and *Restrictive* (and similarly

[39] We cluster the standard errors by day to control for cross-sectional correlation in the error term. As in the previous tests, risk-adjusted returns are estimated using the standard Fama-French model plus momentum.

for *ISSfor*, and *ISSforPred*) is statistically negative, indicating that the cross-sectional differences in abnormal returns across firms with different levels of restrictiveness in their exchange plans did not exist in the control period.

4.3. Option exchange restrictiveness and accounting performance

An alternative assessment for the performance consequences of stock option exchanges and the role of proxy advisors can be developed using firm accounting performance. Accounting performance has a less direct link to changes in shareholder wealth. However, accounting performance measures are not affected by possibility that the market has anticipated the impact of the exchange and the stock market reaction tests have low power. Similar to considerable prior research, we assess the change in operating performance using:

$$\Delta ROA_t = \delta_0 + \delta_1 \Delta ROA_{t-1} + \delta_2 Restrictive + \delta_3 ApprovalReq + \delta_4 NotImplemented + \theta Controls + \varepsilon. \quad (4)$$

We measure accounting performance as the change in return on assets (defined as net income scaled by total assets), ΔROA_t, which is calculated as $ROA_t - ROA_{t-1}$ where t is the fiscal year of the announcement date of the option exchange. We include ΔROA_{t-1} to control for mean reversion in ROA. *Controls* is a vector of control variables defined in section 3.

The results from estimating equation (4) are reported in Table 5. The estimated coefficients for *Restrictive, ISSfor,* and *ISSforPred* are statistically negative, which indicates that more restrictive plans are associated with lower increases in profitability in the year following the stock option exchange. These results are consistent with the stock market reaction results presented in Table 4.

4.4. Option exchange restrictiveness and executive turnover

A commonly cited reason for the implementation of an exchange program is to retain key employees at a critical time for the firm. If compliance with proxy advisor policies reduces the incentive effects of the compensation program, we expect increased turnover in firms implementing more restrictive programs. Executive turnover is measured using data from the BoardEx database. This database collects information on all firm executives that can be confirmed in publicly available sources, including employment start date and end date, which we use to identify turnover.[40] We define *Turnover* as the number of executives that left the firm during year *t* and *t*+1, where *t* is the fiscal year of the *Announcement* date. The mean (median) turnover for the sample firms is 1.30 (1.00) with a standard deviation of 1.74. Because *Turnover* is a censored count variable, we estimate the following zero-inflated Poisson regression model:

$$Turnover = \delta_0 + \delta_1\, LagTurnover + \delta_2\, Restrictive + \delta_3\, ApprovalReq + \delta_4\, NotImplemented + \delta_5\, Nexecs + \theta\, Controls + \varepsilon. \quad (5)$$

LagTurnover, defined as the number of executives that left the firm during years *t-1* and *t-2*, is included to mitigate self-selection concerns in which firms with higher turnover could endogenously chose more restrictive exchanges. If that were the case, the association between *Turnover* and *Restrictive* would hold in general, not as a consequence of the exchange, and including *LagTurnover* in the specification would subsume the explanatory power of *Restrictive*. Because firms with more executives reported in BoardEx tend to have higher turnover, we also include the number of executives covered in the BoardEx database (*Nexecs*) as an additional control variable.

[40] BoardEx collects data on over 380,000 individuals, mainly in Europe and North America, and mainly from publicly listed and major private enterprises (for additional background information, see: www.Boardex.com). Their data comes from publicly available sources, such as firm filings and press releases. For a given firm, the data collected includes directors and named executive officers, and also other executives for whom verifiable information is available. We are able to collect turnover data for 250 of the 264 transactions using BoardEx.

The estimation results for equation (5) are presented in Table 6. We find consistent evidence that more restrictive exchanges and exchanges that comply with ISS voting recommendations are associated with higher executive turnover. Assuming that executive turnover is undesirable for the firm, these results are consistent with the performance results in Tables 4 and 5.[41]

4.5. Trades by insiders prior to option exchanges

Another way to assess the value of stock option exchanges is to examine trades by insiders before the introduction of the exchange plans. If executives expect the exchange to increase shareholder value, we should see an increase in net buying. Given the performance results above, we expect to observe a negative relation between *Restrictive, ISSfor* and *ISSforPred*, and net buying by executives.

Insider trading data are collected from the Thomson Financial Insider Trading Data Feed database. We separately analyze open market purchases and sales by insiders during the six months before the *Announcement* of the stock option exchange. *Nbuys* is the average number of firm shares bought by insiders in open market transactions scaled by the number of shares outstanding in the firm. *Nsells* is the average number of firm shares sold by insiders in open market transactions scaled by the number of shares outstanding in the firm.

The estimation results for trades by insiders are presented in Table 7.[42] In Panel A, we find that buying activity is concentrated in firms with less restrictive exchanges (*Restrictive*) and those that do not comply with ISS voting criteria (*ISSfor* and *ISSforPre*d). In contrast, we find no similar cross-sectional associations for selling behavior. To measure the profitability of the

[41] As support for this interpretation, in untabulated results we find that executive turnover has a statistically negative relation with *ROA*.
[42] Since there are firms with no insider trading activity, we use tobit regressions when *Nbuys* and *Nsells* is the dependent variable.

insider trades, we calculate *Alpha* as the 6-month average abnormal return of insider trades estimated using the Fama-French three factor model plus momentum. We find that trades by insiders of firms with more restrictive exchanges and comply with ISS's criteria are less profitable. To assess whether these results are unique to the time period immediately prior to the announcement of the exchange program, we repeat the analysis during the (-12,-6) month period before the announcement of the exchange. The results in Table 7 (Panel B) show that the cross-sectional patterns in the purchasing activity differ considerably between these two time periods. Thus, insiders act as if the effect of exchange programs would be value-increasing, but limited by the restrictions included in the program design.

4.6. Endogeneity and selection concerns

One potential econometric concern with our statistical tests is that introducing an option exchange program is an endogenous decision of the board of directors. Similar to most observational studies, our results might suffer from correlated omitted variable and/or self selection econometric problems. For example, option exchanges can simply be another manifestation of governance problems within the firm. To explore this possibility, we compare each exchange transaction against all other firms in the two-digit SIC industry group in the year of the exchange announcement where data are available. Specifically, we estimate the following logit regression:

$$\begin{aligned} Exchange = {} & \delta_0 + \delta_1\, Size + \delta_2\, BM + \delta_3\, Leverage + \delta_4\, IdVol + \delta_5\, Beta + \\ & \delta_6\, Ninstit + \delta_7\, ROA + \delta_8\, PastReturn + \delta_9\, IndustryROA + \delta_{10}\, IndustryRet + \\ & + \delta_{11}\, Options + \\ & \delta_{12}\, Pct(ISS|\ disagreement) + \delta_{13}\, Nactivists + \delta_{14}\, ExcessComp + \\ & \delta_{15}\, BoardCharact + \delta_{16}\, CharterRules + \varepsilon. \end{aligned} \qquad (6)$$

Exchange is a dichotomous variable equal to 1 if the firm announced an exchange in fiscal year *t* and 0 otherwise. The rest of the variables are as defined in section 3. The estimation results for equation (6) are presented in Table 8 (Panel A).[43] Consistent with prior literature related to option repricing, we find that option exchanges are concentrated among firms and industries with poor past market performance (*IndustryRet*) and high use of options in compensation contracts (*Options*). These are expected results because exchange plans are only useful for firms with employees that hold a substantial number of underwater options. We also find that the *Pct(ISS disagreement)* is not associated with the introduction of option exchanges. This is an important result because it indicates that firms bring forward exchange plans regardless of whether ISS influences their institutional investors' voting.

We also find that the association between exchange programs and measures of corporate governance is ambiguous. While exchanges are somewhat more prevalent among firms with fewer independent directors and more directors who are founders (*PctIndepDir* and *PctFoundingDirs*), exchanges also are somewhat more frequent among firms where the chairman of the board is an outsider (*OutsideChair*). The other governance variables are not statistically associated with the probability of introducing an option exchange. Thus, the adoption of stock option exchange programs appears to be driven by economic considerations rather than by entrenched managers seeking to extract rents from shareholders.

An alternative interpretation for the lack of association between *Pct(ISS disagreement)* and the introduction of an exchange program is that this result is produced because of selection problems. For example, it is plausible that proxy advisors stop firms with serious agency problems from bringing forward a value expropriating exchange program. Our sample only contains announced programs and we cannot identify firms where proxy advisors stopped a

[43] We use three different specifications because some of the independent variables have a significant number of missing values.

transaction that would have enabled executives to extract rents from shareholders. This type of selection problem has the potential to confound our interpretation that the restrictions induced by proxy advisory firms result in a decrease in shareholder wealth.

One way to provide some insight into this selection concern is to determine whether there are many firms that would seem to benefit from a stock option exchange, but who do not actually bring this transaction forward for a shareholder vote. If we cannot find a substantial sample of non-exchange firms that are similar to the exchange firms, this will mitigate concerns about selection problems confounding our results. We implement this analysis using a propensity-score matching algorithm to search for firms with the most similar observable characteristics to those of the exchange firms. We use all the firms with non-missing CRSP-Compustat data as the pool of potential controls. For each exchange, we select from the firm that has the most similar propensity to implement an option exchange program.[44] This procedure results in 264 matched pairs of firms.

The similarity between the exchange firm and its matching control firm is presented in Table 8 (Panel B). Although the comparative results vary somewhat depending on whether the mean or median is used for the tests, we find that exchange firms are smaller, have few institutional shareholders, and use stock options much more aggressively than the matched sample. These results indicate that the exchange and non-exchange firms do not have balance in the 11 covariates used for this assessment. In propensity score analysis, matched pairs are typically deleted until there are no significant differences in any of the covariates. In order to

[44] We obtain the propensity score by estimating equation (6). Matched pairs are obtained using Derigs (1988) algorithm, which forms pairs by minimizing propensity score differences and maximizing treatment differences. Using equation (6) to obtain the propensity score does not necessarily impose identical industry affiliation for the treatment and control firms in each pair. Rather, the inclusion of the variables *IndustryROA* and *IndustryRet* can produce pairs that are in industries with similar median *ROA* and stock returns in the fiscal year previous to the exchange. We repeat the propensity-score matching imposing equal industry affiliation in each pair and obtain similar inferences.

induce this type of balance, it is necessary to eliminate most of the matched pairs (i.e., less than 10 pairs are retained).[45]

We also compare the governance characteristics across matched pairs. In untabulated results we find that exchange firms have more founding directors and fewer independent directors. Exchange firms also have lower excess compensation, a higher percentage of outsider chairpersons and a lower percentage of "busy" board members. This evidence again suggests that relative to non-exchange firms with the most similar propensity to engage in an option exchange, exchange firms do not have "weaker" corporate governance. As an additional robustness check, we re-estimate the matching algorithm including the governance variables described in Section 3.4. We obtain matches for the 203 exchanges with non-missing governance data. Untabulated results reveal that, in this case, the treatment group also has on average a significantly higher percentage of outstanding options (*Options*), lower *ROA*, and lower *BM*.

The propensity score matching results suggest that there are very few firms in the population that have characteristics similar to our sample of exchange firms but did not move forward with an exchange plan. Thus, we believe that selection problems are not completely confounding our results, and more importantly, we do not find evidence that proxy advisory firms are stopping many rent extracting exchange offers.

5. Conclusion

[45] In the matching algorithm, we do not require matched pairs to have the same two-digit SIC code, but do require that they belong to industries with similar past performance as measured by *IndustryROA* and *IndustryRet*. In untabulated analysis we find that requiring matched pairs to have the same two-digit code produces an even larger covariate unbalance between the treatment and control group than that reported in Table 8 (Panel B). Using Fama-French industry classifications also leads to similar results. Finally, we also obtain a control group matching on size and industry affiliation (SIC code). The resulting control group exhibits statistically higher values of *PastReturn* and lower values of *Options* than the treatment group (besides imbalance in other covariates, i.e., *BM*, *Idvol* and *Beta*). This suggests that exchangers' industry peers have less severe underwater option problems than exchangers.

We examine the shareholder value implications of ISS proxy voting recommendations on stock option exchange programs. We find that ISS' recommendations can essentially be characterized as a "one size fits all" or "check-the-box" approach that ignores firm-specific factors. Across all firms that decided to pursue an exchange program, we find that the value of the program to shareholders is a decreasing function of whether the program complied with the restrictive policies used by ISS for determining their voting recommendations to institutional investors. These results are consistent with the conclusion that the approach taken by ISS in developing recommendations for shareholder votes on stock option exchanges is *not* value increasing for shareholders.

This study examines only one (somewhat simple) management proposal. It is likely that proposals on topics such as equity compensation plans, executive bonus plans, director elections, and mergers and acquisitions have a larger impact on investor returns and therefore that the recommendations of proxy advisory firms in these areas will have broader implications for the economy. In order to assess the general impact of proxy advisory firms, it would therefore be necessary to examine the shareholder value impact of these proposals in a manner similar to ours. An important public policy question is whether our results on stock option exchanges generalize to all (or most) of the voting recommendations made by proxy advisory firms.

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Appendix A. Examples of Stock Option Exchange Programs

Intel Corp.: Plan required shareholder approval

Key Event Dates	Details
March 23, 2009	➢ File SEC Form PRE 14A, a preliminary proxy statement, which contains the shareholder proposal regarding the exchange program: o Officers and Directors are not eligible o Only stock options with strike price greater than the 52 week high and granted prior to the 12 months preceding the exchange are eligible o Exchange will be approximately value-for-value o New awards will carry a new 4-year vesting schedule o Surrendered stock options will be cancelled and not re-issued ➢ File SEC Form SC-TO-C, tender offer communication, which contains communication from the CEO to employees regarding the exchange program shareholder proposal
May 20, 2009	➢ Shareholder meeting, program approved
September 22, 2009	➢ File SEC Form SC-TO-I, tender offer initiation o Employees are provided term sheets and instructions for the tender offer transaction o Employees have until 10/30/09 to make participation election
November 5, 2009	➢ File SEC form SC-TO-I/A, amendment to the tender offer stating that the exchange program tender offer closed 10/30/09 o 217,436,251 (~66% of those eligible) were accepted for cancellation o 83,046,296 new options were granted in return

Sources: Intel Corp. SEC Form PRE 14A, March 23, 2009, Intel Corp. SEC Form SC TO-C, March 23, 2009; SEC Form SC TO-C, May 20, 2009, Intel Corp.; SEC Form SC TO-I, September 22, 2009; SEC Form SC TO-I/A, November 5, 2009.

Limelight Networks: No shareholder approval required

Key Event Dates	Details
April 14, 2008	➢ File SEC form SC-TO-C, tender offer communication disclosing communication from the CEO to employees regarding exchange program: o Officers and Directors are not eligible o Options granted within the past year will be eligible for exchange o Employees can receive 1 share of restricted stock for every 2 options surrendered (not value-for-value for some options) o New awards will vest semi-annually over 2 years (shorter than the original vesting)
May 15, 2008	➢ File SEC Form SC-TO-I, tender offer initiation: o Employees are provided term sheets and instructions for the tender offer transaction o Employees have until 6/16/08 to make participation election
July 14, 2008	➢ File SEC form SC-TO-I/A, amendment to the tender offer stating that the exchange program tender offer closed 10/30/09: o 2,002,100 (~55% of those eligible) were accepted for cancellation o 1,001,051 new restricted stock units were granted in return

Sources: Limelight Networks, Inc., SEC Form SC TO-C, April 4, 2008; SEC Form SC TO-I, May 15, 2008; SEC Form SC TO-I/A, July 14, 2008.

Appendix B. ISS Exchange Program Policies

Source: http://www.usbank.com/pcg/pdf/US2006SummaryGuidelines.pdf

ISS does not publicly disclose the specific rules behind its voting recommendation policies. Below is the published voting guideline for stock option exchange programs from the ISS 2006 US Proxy Voting Guidelines Summary:

Vote CASE-by-CASE on management proposals seeking approval to exchange/reprice options taking into consideration:
• Historic trading patterns;
• Rationale for the repricing;
• Value-for-value exchange;
• Treatment of surrendered options;
• Option vesting;
• Term of the option;
• Exercise price;
• Participation.

If the surrendered options are added back to the equity plans for re-issuance, then also take into consideration the company's three-year average burn rate.

Vote FOR shareholder proposals to put option repricings to a shareholder vote.

Below is a summary of the specific the ISS voting recommendation criteria regarding option exchanges and their mapping into our variables to capture those rules:

ISS Consideration	**ISS Policy**	**Restriction Variable Label**
Historic trading patterns	Recommend against any exchange program that includes options that have recently been in-the-money (e.g., those with a strike price less than the 52 week high)	*Price-Floor*
Rationale for the repricing	Recommend against any exchange that includes options granted in the prior year	*Issuance-Date*
Value-for-value exchange	Recommend against any plan in which the exchanged options have value less than the awards offered in return	*Value-for-Value*
Treatment of surrendered options	If the total equity compensation program plan cost is too high (as measured by a proprietary cost model), recommend against an exchange that allows share recaptured in the exchange to be used for future awards	*Share-Restrictions*
Option Vesting	Recommend against any exchange in which new award vesting schedules are less than the greater of 6 months and the original award vesting schedule	*Vesting*
Term of the option	Recommend against any plan in which the term of new stock options is greater than the term of the original options	None – in practice we do not observe firms extending the term of options in our sample
Exercise Price	Recommend against any plan in which replacement options have an exercise price less than or equal to the current stock price (not applicable to restricted stock)	None – changes to income tax regulations (409A) effectively eliminated the awarding of stock options with a strike price less than the stock price at grant
Participation	Recommend against any plan in which named executive officers or directors are allowed to participate	*Eligibility*

Appendix C. Examples of the effect of ISS policies on the design of option exchanges

SMART Modular Technologies (WWH), Inc.

"We believe we have structured the stock option exchange program in a manner that balances both the interests of our employees and our shareholders. We also designed our program to meet virtually all of the guidelines established by the RiskMetrics Group, including the following:

- Offering a value-for-value exchange that will return no more value in replacement stock options than those that are tendered;
- Excluding NEOs and director from participation;
- Limiting eligible options to those with exercise prices above SMART's 52-week high;
- Offering replacement stock options that will not be vested on the date of grant;
- Establishing a contractual term for replacement stock options that will not be longer than the weighted average remaining term of the surrendered options;
- Excluding options granted within the last 12 months from being eligible for exchange; and
- Canceling surrendered options, net of replacement stock options, instead of returning them to the Plan."

(Source: SMART Modular Technologies (WWH), Inc. SEC form DEF 14A filed August 6, 2009)

Tessera Technologies, Inc.

"We adjusted our [option exchange] plan design to ensure that it complied with ISS requirements. …We were uncertain we would win approval of the plan without an affirmative ISS recommendation. I don't think it's likely that we would have designed the plan in the same way if we weren't trying to meet the ISS tests." (Source: Interview with Thomas H. Blanco, Senior Vice President and Chief Administrative Officer, Tessera Technologies Inc.)

Lattice Semiconductor Corporation

"We request that our shareholders vote their shares in favor of our two director nominees, Bruno Guilmart, our CEO, and Balaji Krishnamurthy, a member of Compensation Committee. Both are the subject of a recommended "Withhold" vote by RMG/ISS due to Lattice's conduct of a value-for-value stock option exchange, which commenced during the fourth quarter of FY 2008 and was completed during the first quarter of FY 2009. As a result of the exchange, approximately 6.2 million options were exchanged for an aggregate of approximately 955,000 options and RSUs. We have formally asked RMG/ISS to reconsider its recommendation, but are not certain whether RMG/ISS will respond in a timely manner before our shareholder meeting or if it will change its recommendation.

Lattice believes that the subject option exchange was not an exercise of poor governance but instead was in the best interests of Lattice's shareholders for the following reasons:

1) Lattice is committed to good governance, as evidenced by its high RMG/ISS Corporate Governance Quotient and its affirmative proposal to declassify its Board in this year's proxy statement.
2) Lattice's value-for-value stock option exchange was implemented to address serious retention issues during the second half of FY 2008 arising out of Lattice's management transition and 2008 restructuring (14% reduction in force and merit pay freeze).
3) According to a report from RMG/ISS, during 2008 41 option exchanges were completed, of which 19 (or 45%) were conducted without prior shareholder approval. Furthermore, based on information Lattice has been able to gather, Lattice believes that the sanction of an adverse recommendation has not previously been applied frequently or uniformly by RMG/ISS.
4) The value-for-value exchange was conducted without shareholder approval only after consultation with Nasdaq and Nasdaq's issuance of a formal opinion confirming that shareholder approval was not required because Lattice's shareholder approved plans permitted the exchange.
5) Although the Lattice shareholder approved plans permitted the exchange, Lattice still structured and conducted the exchange in full compliance with all of the other published RMG/ISS guidelines for such exchanges, including specifically:
    a. Directors and executive officers were not allowed to participate in the exchange;
    b. Only options with exercise prices above the 52-week high were permitted to be exchanged;
    c. Vesting of all newly issued options and RSUs was reset at four years; and
    d. Options were exchanged on a value-for-value basis determined based on Black-Scholes.
6) Although Lattice could have delayed the exchange to seek shareholder approval, this would have resulted in a delay of approximately two to three months (for a special shareholder meeting) and added an estimated cost of approximately $150,000, or a delay of six months if Lattice delayed seeking approval until its annual meeting. In either event, the purpose of addressing an imminent retention issue would have been frustrated.
7) In lieu of the option exchange, Lattice also could have issued the 955,000 options and RSUs as new grants under its plans, but this would have resulted in additional compensation expense of $900,000 and additional dilution, which we believe would not have been in Lattice's shareholders' best interest.

Because of the majority vote provisions in our Corporate Governance Policies, if the he ISS recommendation results in a majority of "Withhold" votes for our directors, both director candidates would be obligated to tender their resignations from Lattice's Board, subject to Board acceptance. Lattice does not believe that this potentially disruptive and destabilizing event would be in the best interests of Lattice or its shareholders, particularly during a period when Lattice is working to achieve sustained profitability." (Source: Lattice Semiconductor Corporation, SEC Form DEFA14A filed April 28)

Figure 1. Recursive Partitioning Analysis of ISS Voting Recommendation

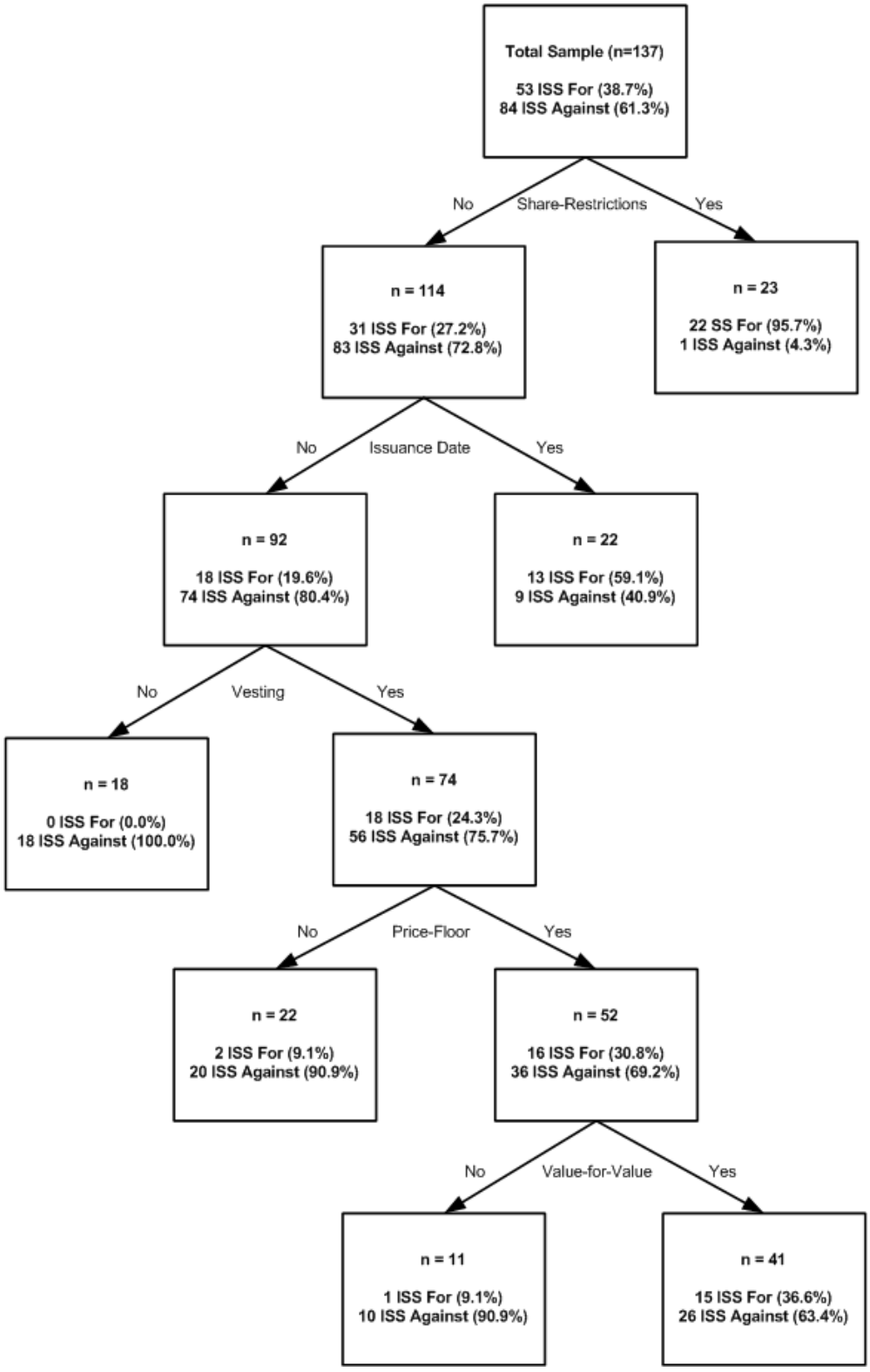

Table 1. Descriptive Statistics

Panel A. Industry and year distribution.

Fiscal year	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*Total*
Business Services		9	6		11	19	45
Electric Equipment		5	6	4	15	30	60
Computers		1	2	1	6	17	27
Pharmaceutical Products	1	1	3	1	4	9	19
Trading						4	4
Entertainment					2	3	5
Healthcare		1			2	2	5
Insurance		1		1		5	7
Measuring and Control Equipment			1		4	6	11
Machinery			1			3	4
Restaurants, Hotels, Motels						4	4
Medical Equipment				1	2	9	12
Petroleum and Natural Gas				1		5	6
Retail				1	1	9	11
Communication		3	3		1	7	14
Wholesale			1	2		1	4
Other			1	2	7	16	26
Total	1	21	24	14	55	149	264

Panel A reports the industry and year distributions of firms that announced a stock option exchange program between December 2004 and December 2009. Industry classifications are based on the Fama-French 48 industry categorization.

Panel B. Selected characteristics of option exchanges.

	All exchanges		*Shareholder Approval Not Required*		*Shareholder Approval Required*		*Difference between approval and non-approval groups (p-value,two-tail)*	
Number of exchanges	264		116		148			
Number of exchanges approved	n.a.		n.a.		136			
Number of exchanges implemented	242		115		127			
	Mean	*Median*	*Mean*	*Median*	*Mean*	*Median*	*t-test p-value*	*Wilcoxon p-value*
PctEligible	48.95%	46.33%	50.89%	50.94%	47.40%	44.77%	0.271	0.316
PctExchanged	79.37%	83.80%	79.65%	84.01%	79.10%	83.75%	0.825	0.976
Percent overhang reduction	2.94%	1.75%	3.67%	1.69%	2.30%	1.78%	0.064	0.660
Days between announcement and closing	86.28	63.50	51.22	31.00	118.03	98.00	0.000	0.000
Percent votes in favor	n.a.	n.a.	n.a.	n.a.	73.80%	76.30%	n.a.	n.a.

Panel B reports descriptive statistics about selected characteristics of the option exchange plans. *PctEligible* is the number of options eligible for participation in the exchange program divided by total options outstanding. *PctExchanged* is the number of options that were actually tendered in the exchange offer, divided by the number of options that were eligible for the exchange. *Percent overhang reduction* is the reduction in the number of stock options outstanding as a result of the exchange program, scaled by total shares outstanding (excluding exchanges not implemented). *Days between announcement and closing* is the number of days between the first public announcement of a stock option exchange program and the closing of the exchange offer (excluding exchanges not implemented). *Percent votes in favor* is the percentage of shareholder votes cast in favor of the proposed stock option exchange program for those programs which were submitted to shareholders.

Table 1. Descriptive Statistics (cont'd)

Panel C. Distributional statistics of control variables.

	All exchanges			*Shareholder Approval Not Required*			*Shareholder Approval Required*			*Difference between approval and non-approval groups (p-value, two-tail)*	
Variable	*Mean*	*Median*	*Sd*	*Mean*	*Median*	*Sd*	*Mean*	*Median*	*Sd*	*t-test p-value*	*Wilcoxon p-value*
Financial Variables											
Size	5.75	5.73	1.87	5.64	5.66	1.71	5.83	5.86	1.98	0.419	0.268
BM	0.58	0.59	1.51	0.50	0.60	2.02	0.64	0.59	0.96	0.448	0.669
Leverage	0.20	0.07	0.32	0.15	0.00	0.24	0.23	0.11	0.36	0.035	0.018
IdVol	0.05	0.04	0.08	0.04	0.04	0.02	0.05	0.04	0.10	0.161	0.175
Beta	1.16	1.10	0.59	1.10	1.08	0.56	1.20	1.12	0.61	0.161	0.276
ROA	–0.08	–0.01	0.29	–0.10	–0.03	0.27	–0.07	0.00	0.31	0.442	0.353
PastReturn	–0.26	–0.40	0.24	–0.15	–0.04	0.23	–0.34	–0.45	0.22	0.000	0.000
IndustryROA	0.05	0.05	0.04	0.05	0.05	0.04	0.05	0.05	0.04	0.796	0.869
IndustryRet	–0.40	–0.45	0.38	–0.30	–0.36	0.46	–0.48	–0.54	0.30	0.000	0.000
Equity Ownership Variables											
Pct(ISS|disagreement)	0.77	0.78	0.17	0.74	0.75	0.20	0.80	0.82	0.14	0.029	0.076
EIPlandate	0.17	0.00	0.37	0.27	0.00	0.45	0.08	0.00	0.27	0.000	0.000
Ninstit	0.11	0.08	0.14	0.10	0.08	0.12	0.12	0.09	0.15	0.189	0.212
Nactivists	5.33	5.00	3.75	4.87	4.00	3.59	5.69	5.00	3.83	0.078	0.068
Options	0.14	0.13	0.08	0.15	0.14	0.08	0.13	0.12	0.07	0.073	0.103
Corporate Governance Variables											
ExcessComp	2.74	0.96	8.63	2.73	1.04	11.25	2.75	0.96	5.87	0.979	0.274
NumDirectors	7.64	7.00	1.82	7.22	7.00	1.90	7.96	8.00	1.70	0.002	0.000
PctIndepDir	0.72	0.75	0.12	0.73	0.75	0.11	0.72	0.73	0.14	0.516	0.847
PctBoardOld	0.13	0.11	0.14	0.13	0.13	0.13	0.14	0.11	0.14	0.569	0.806
PctBoardBusy	0.39	0.39	0.23	0.35	0.33	0.23	0.42	0.43	0.23	0.013	0.014
OutsideChair	0.33	0.00	0.47	0.32	0.00	0.47	0.33	0.00	0.47	0.867	0.867
PctApptdCEO	0.43	0.43	0.32	0.40	0.40	0.33	0.45	0.43	0.31	0.238	0.228
PctFoundingDirs	0.04	0.00	0.07	0.05	0.00	0.07	0.03	0.00	0.06	0.133	0.138
Staggered	0.46	0.00	0.50	0.58	1.00	0.50	0.37	0.00	0.49	0.001	0.001
DualClass	0.07	0.00	0.25	0.06	0.00	0.23	0.08	0.00	0.27	0.551	0.551

Panel C reports descriptive statistics for the control variables used in the subsequent statistical tests for firms that announced an exchange program. Variables are measured for the fiscal year ending prior to the announcement date of the exchange. *Size* is the natural logarithm of market value. *BM* is the Book-to-market ratio. *Leverage* is total liabilities divided by total assets. *IdVol* is the idiosyncratic volatility, computed as the standard deviation of the residuals in a regression of daily returns on the value–weighted market return over 365 days prior to fiscal year end. *Beta* is the coefficient in a regression of daily firm return on the value-weighted market return over 365 days prior to fiscal year end. *ROA* is return on assets (operating income scaled by total assets). *PastReturn* is the annually compounded return over the previous fiscal year using daily stock return data. *IndustryROA* is the median ROA among all the firms in the same two-digit SIC code in the previous fiscal year. *IndustryRet* is the median annually compounded stock return of all the firms in the same two-digit SIC code over the previous fiscal year. *Pct(ISS|disagreement)* is the percentage of institutional investors whose vote is the same as the ISS recommendation, given that the ISS recommendation is different from the management recommendation in shareholder proposals for the three years prior to the exchange. *EIPlandate* is an indicator variable equal to 1 if the most recently approved stock plan was approved in or before 2002, or if the plan has been in effect since prior to IPO, and 0 otherwise. *Ninstit* is the number of institutional investors owning company shares expressed in thousands. *Nactivists* is the number of activists (as defined by Cremers and Nair, 2005) that own stock in the company. *Options* is the intensity of option compensation in the firm calculated as the number of options outstanding scaled by the number of shares outstanding. *TotalComp* is the total annual pay for the CEO (measured in millions). *NumDirectors* is the natural logarithm of the number of directors on the Board. *PctIndepDir* is the percentage of board members classified as independent directors (i.e., not insiders or affiliated). *PctBoardOld* is the percentage of board members who are at least 69 years old. *PctBoardBusy* is the percentage of Board members who serve on at least two public company boards of directors. *OutsideChair* is an indicator that equals one if the chairman of board is classified as an outsider and zero otherwise. *PctApptdCEO* is the percentage of board members classified as outsiders who were appointed after the current CEOs term began. *PctFoundDirs* is the percentage of board members who are founders of the company. *Staggered* is an indicator that equals one if the company's board members are all elected annually and zero otherwise. *DualClass* is an indicator that equals one if the company has multiple classes of shares with unequal voting rights and zero otherwise. *t*-stats. and *z*-stats. are included for t-test and Wilcoxon, respectively.

Table 2. Restrictions, ISS recommendations and voting outcomes

Panel A. Distributional statistics for exchange restrictions.

	All Exchanges	*Shareholder Approval Not Required*	*Shareholder Approval Required*	*Difference between approval and non-approval groups (p-value, two-tail)*
Restrictive (number of restrictions)				
Mean	3.26	2.75	3.66	0.000
Median	3.00	3.00	4.00	
Standard deviation	1.31	1.02	1.37	
Price-Floor	73.86%	72.41%	75.00%	0.636
Vesting	80.30%	73.28%	85.81%	0.011
Eligibility	82.58%	76.72%	87.16%	0.026
Value-for-Value	65.53%	49.14%	78.38%	0.000
Issuance-Date	13.64%	1.72%	22.97%	0.000
Share-Restrictions	10.23%	1.72%	16.89%	0.000
ISSfor	n.a.	n.a.	38.68%	

Panel A reports descriptive statistics for the restrictions in the design of option exchange plans. *Restrictive* is the number of restrictions in the plan, calculated as the sum of *Price-Floor, Vesting, Eligibility, Value-for-Value, Issuance-Date,* and *Share-Restrictions* (see Appendix B). *Price-Floor* is an indicator variable equal to 1 if there is a price floor restriction in the exercise price and 0 otherwise. *Vesting* is an indicator variable equal to 1 if there is an extension of the vesting period for the new options and 0 otherwise. *Eligibility* is an indicator variable equal to 1 if officers or directors are excluded from the plan and 0 otherwise. *Value-for-Value* is an indicator variable equal to 1 if it is a value for value exchange and 0 otherwise. *Issuance-Date* is an indicator variable equal to 1 if certain options are excluded from the exchange on the basis of when they were issued and 0 otherwise. *Share-Restrictions* is an indicator variable equal to 1 if the proposal restricted the use of cancelled shares and 0 otherwise. *ISSfor* is an indicator variable equal to 1 if ISS recommended to vote in favor of the exchange and 0 if ISS recommended to vote against the exchange. The last column presents *p*-values from the Wilcoxon test.

Panel B. Plan restrictions and ISS recommendations. Descriptive statistics by number of restrictions.

Number of restrictions	*0*	*1*	*2*	*3*	*4*	*5*	*6*	*Total*
ISSagainst	2	8	14	27	27	6	0	84
ISSfor	0	0	1	2	16	24	10	53
Total	2	8	15	29	43	30	10	137

Panel B presents the distribution of the number of plan restrictions for plans that ISS made a *for* or *against* recommendation. *ISSfor* is an indicator variable equal to 1 if ISS recommended to vote in favor of the exchange and 0 if ISS recommended to vote against the exchange. *ISSagainst* is an indicator variable equal to 1 if ISS recommended to vote against the exchange and 0 if ISS recommended to vote in favor of the exchange.

Table 2. Restrictions, ISS recommendations and voting outcomes (cont'd)

Panel C. Plan restrictions and ISS recommendations. Descriptive statistics by type of restriction.

	Restriction		*No Restriction*	
	ISSagainst	*ISSfor*	*ISSagainst*	*ISSfor*
Price-Floor	52	50	32	3
Vesting	66	53	18	0
Eligibility	68	53	16	0
Value-for-Value	58	51	26	2
Issuance-Date	10	33	74	30
Share-Restrictions	1	22	83	31

Panel B presents the distribution of the types of plan restrictions for plans that ISS made a for or against recommendation. *ISSfor* is an indicator variable equal to 1 if ISS recommended to vote in favor of the exchange and 0 if ISS recommended to vote against the exchange. *ISSagainst* is an indicator variable equal to 1 if ISS recommended to vote against the exchange and 0 if ISS recommended to vote in favor of the exchange. *Price-Floor* is an indicator variable equal to 1 if there is a price floor restriction in the exercise price and 0 otherwise. *Vesting* is an indicator variable equal to 1 if there is an extension of the vesting period for the new options and 0 otherwise. *Eligibility* is an indicator variable equal to 1 if officers or directors are excluded from the plan and 0 otherwise. *Value-for-Value* is an indicator variable equal to 1 if it is a value for value exchange and 0 otherwise. *Issuance-Date* is an indicator variable equal to 1 if certain options are excluded from the exchange on the basis of when they were issued and 0 otherwise. *Share-Restrictions* is an indicator variable equal to 1 if the proposal restricted the use of cancelled shares and 0 otherwise.

Panel D. Regression analysis of plan restrictions and ISS recommendations.

	Dependent variable: ISSfor			
	Logit	OLS	Logit	OLS
Variable	(1)	(2)	(3)	(4)
Intercept	–7.82***	–0.43***	–56.40***	–0.27***
	(–5.71)	(–6.12)	(–161.93)	(–3.70)
Restrictive	1.83***	0.22***		
	(5.65)	(11.71)		
Price-Floor			1.80**	0.22***
			(2.35)	(2.90)
Vesting			27.90***	0.16***
			(80.11)	(2.93)
Eligibility			24.96***	0.13**
			(71.65)	(2.32)
Value-for-Value			1.35*	0.13*
			(1.65)	(1.77)
Issuance-Date			1.05**	0.20**
			(1.96)	(2.21)
Share-Restrictions			3.19***	0.50***
			(3.01)	(6.57)
N	137	137	137	137
(Pseudo) R^2	48.54%	38.30%	31.80%	42.91%

Panel D presents regression analysis of the association between the ISS vote recommendation and the restrictions included in the plan. The table presents the coefficient (*t*-stat) for each variable in the specification. *ISSfor* is an indicator variable equal to 1 if ISS recommended to vote in favor of the exchange and 0 if ISS recommended to vote against the exchange. *Restrictive* is the number of restrictions in the plan, calculated as the sum of *Price-Floor, Vesting, Eligibility, Value-for-Value, Issuance-Date,* and *Share-Restrictions* (see Appendix B). *Price-Floor* is an indicator variable equal to 1 if there is a price floor restriction in the exercise price and 0 otherwise. *Vesting* is an indicator variable equal to 1 if there is an extension of the vesting period for the new options and 0 otherwise. *Eligibility* is an indicator variable equal to 1 if officers or directors are excluded from the plan and 0 otherwise. *Value-for-Value* is an indicator variable equal to 1 if it is a value for value exchange and 0 otherwise. *Issuance-Date* is an indicator variable equal to 1 if certain options are excluded from the exchange on the basis of when they were issued and 0 otherwise. *Share-Restrictions* is an indicator variable equal to 1 if the proposal restricted the use of cancelled shares and 0 otherwise. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels (two-tail) respectively.

Table 3. Cross-sectional variation in the characteristics of option exchanges

Panel A. Characteristics of option exchange programs.

Dependent Variable: *Restrictive* (ologit)

Variable	(1)	(2)
Intercept	omitted	omitted
Pct(ISS|disagreement)		2.13**
		(2.26)
ApprovalReq	1.48***	1.78***
	(5.57)	(5.19)
Size	0.31***	–0.03
	(2.39)	(–0.14)
BM	–0.16**	–0.19**
	(–2.27)	(–2.23)
Leverage	–1.08***	–0.62
	(–2.73)	(–1.06)
IdVol	–1.86	–23.15*
	(–1.32)	(–1.97)
Beta	0.03	–0.30
	(0.13)	(–0.99)
Ninstit	1.65	3.09
	(0.98)	(1.54)
ROA	–0.12	–0.30
	(–0.22)	(–0.42)
PastReturn	–0.71**	–1.02**
	(–2.10)	(–2.38)
IndustryROA	5.22*	3.24
	(1.84)	(1.01)
IndustryRet	–0.19	–0.07
	(–0.34)	(–0.08)
Options	3.90***	3.22
	(2.46)	(1.44)
N	264	178
p–value for χ^2	< 0.01	< 0.01

Panel A presents results of the examination of the determinants of the restrictiveness in exchange plan design and the requirement of shareholder approval of the plan. Models (1) and (2) show the results of an ordered logit regression, with *Restrictive* as the dependent variable. The table presents the coefficient (*t*-stat) for each variable in the specification. *Restrictive* is the number of restrictions in the plan, calculated as the sum of *Price-Floor, Vesting, Eligibility, Value-for-Value, Issuance-Date,* and *Share-Restrictions* (see Appendix B). *Pct(ISS|disagreement)* is the percentage of institutional investors whose vote is the same as the ISS recommendation, given that the ISS recommendation is different from the management recommendation in shareholder proposals for the three years prior to the exchange. *ApprovalReq* is an indicator variable equal to 1 if shareholder approval is required and 0 otherwise. *Size* is the natural logarithm of market value. *BM* is the Book-to-market ratio. *Leverage* is total liabilities divided by total assets. *IdVol* is the idiosyncratic volatility, computed as the standard deviation of the residuals in a regression of daily returns on the value–weighted market return over 365 days prior to fiscal year end. *Beta* is the coefficient in a regression of daily firm return on the value-weighted market return over 365 days prior to fiscal year end. *Ninstit* is the number of institutional investors owning company shares expressed in thousands. *ROA* is return on assets (operating income scaled by total assets). *PastReturn* is the annually compounded return over the previous fiscal year using daily stock return data. *IndustryROA* is the median *ROA* among all the firms in the same two -digit SIC code. *IndustryRet* is the median annually compounded stock return of all the firms in the same two-digit SIC code over the previous fiscal year. *Options* is the intensity of option compensation in the firm calculated as the number of options outstanding scaled by the number of shares outstanding. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels (two-tail) respectively.

Table 3. Cross-sectional variation in the characteristics of option exchanges (cont'd)

Panel B. Intermediate outcomes of option exchange programs.

Variable	Dependent Variable: *PctEligible* (Tobit, double censored) (1)	Dependent Variable: *PctExchanged* (Tobit, double censored) (2)
Intercept	0.69***	1.09***
	(6.92)	(13.03)
Restrictive	–0.08***	–0.03**
	(–5.39)	(–2.52)
ApprovalReq	0.01	0.03
	(0.20)	(0.87)
Size	–0.03**	–0.02
	(–2.04)	(–1.45)
BM	0.00	0.02*
	(–0.02)	(1.74)
Leverage	0.14**	0.07
	(2.11)	(1.56)
IdVol	–0.01	0.07
	(–0.07)	(0.41)
Beta	0.09***	–0.02
	(2.82)	(–0.96)
Ninstit	0.36**	0.11
	(2.00)	(0.76)
ROA	–0.13*	0.08
	(–1.87)	(1.31)
PastReturn	0.01	–0.001
	(0.38)	(–0.04)
IndustryROA	0.57	0.04
	(1.50)	(0.14)
IndustryRet	–0.09	0.06
	(–1.21)	(1.03)
Options	0.14	–0.57***
	(0.66)	(–3.21)
N	255	241
p-value for χ^2	< 0.01	< 0.01

Panel B presents results of how the restrictiveness of the plan impacts its breath of eligibility and participation. Model (1) shows the results of a double censored Tobit regression with *PctEligible* as the dependent variable. Model (2) shows the results of a double censored Tobit regression with *PctExchanged* as the dependent variable. The table presents the coefficient (t-stat) for each variable in the specification.. *PctEligible* is the number of options eligible for participation in the exchange program divided by total options outstanding. *PctExchanged* is the number of options that were actually tendered in the exchange offer, divided by the number of options that were eligible for the exchange. The rest of the variables are as defined in panel A. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels (two-tail) respectively.

Table 4. Market reaction to option exchange programs

Panel A. Abnormal returns from the announcement to the close of the option exchange program.

	Dependent Variable: *AdjRet*			
Variable	(1)	(2)	(3)	(4)
Intercept	0.63***	0.75***	0.24***	0.38***
	(3.92)	(3.83)	(2.74)	(3.82)
Restrictive	–0.09**			
	(–2.27)			
ISSfor			–0.18*	
			(–1.79)	
ISSforPred				–0.20**
				(–2.13)
Price-Floor		–0.14		
		(–0.79)		
Vesting		–0.19		
		(–0.96)		
Eligibility		–0.18		
		(–0.81)		
Value-for-Value		0.02		
		(0.11)		
Issuance-Date		–0.05		
		(–0.49)		
Share-Restrictions		0.00		
		(0.04)		
ApprovalReq	–0.10	–0.14		–0.11
	(–0.84)	(–0.90)		(–0.93)
N	242	242	118	242
R^2	2.89%	3.77%	2.34%	2.02%

Panel A presents cross-sectional differences in average abnormal returns from the announcement to the closing of the option exchange program. The table presents the coefficient (*t*-stat) for each variable in the specification. *t*-statistics are adjusted for heteroskedasticity. The dependent variable, *AdjRet*, is the average daily risk-adjusted return over the exchange period, estimated using the Fama-French three-factor model plus momentum. *AdjRet* is expressed as a %. *Restrictive* is the number of restrictions in the plan, calculated as the sum of *Price-Floor, Vesting, Eligibility, Value-for-Value, Issuance-Date,* and *Share-Restrictions* (see Appendix B). *ISSfor* is an indicator variable equal to 1 if ISS recommended to vote in favor of the exchange and 0 if ISS recommended to vote against the exchange. *ISSforPred* is an indicator variable that equals *ISSfor* when ISS recommendation exists. When ISS recommendation does not exist, *ISSforPred* equals the predicted value of *ISSfor* using recursive partitioning (as diagrammed in Figure 1). *Price-Floor* is an indicator variable equal to 1 if there is a price floor restriction in the exercise price and 0 otherwise. *Vesting* is an indicator variable equal to 1 if there is an extension of the vesting period for the new options and 0 otherwise. *Eligibility* is an indicator variable equal to 1 if officers or directors are excluded from the plan and 0 otherwise. *Value-for-Value* is an indicator variable equal to 1 if it is a value for value exchange and 0 otherwise. *Issuance-Date* is an indicator variable equal to 1 if certain options are excluded from the exchange on the basis of when they were issued and 0 otherwise. *Share-Restrictions* is an indicator variable equal to 1 if the proposal restricted the use of cancelled shares and 0 otherwise. *ApprovalReq* is an indicator variable equal to 1 if shareholder approval is required and 0 otherwise. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels (two-tail) respectively.

Table 4. Market reaction to option exchange programs (cont'd)

Panel B. Abnormal returns on important dates of the program.

Variable	*Announcement date* *AdjRet*			*Approval date* *AdjRet*			*Implementation date* *AdjRet*		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intercept	0.62**	0.21	0.51***	1.02***	0.28*	0.46***	1.05***	0.40***	0.53***
	(2.27)	(1.27)	(3.66)	(4.01)	(1.72)	(3.22)	(3.86)	(2.59)	(3.72)
Restrictive	–0.04			–0.21***			–0.20***		
	(–0.59)			(–3.15)			(–2.65)		
ISSfor		–0.31			–0.41*			–0.54***	
		(–1.53)			(–1.93)			(–3.02)	
ISSforPred			–0.37*			–0.45**			–0.51***
			(–1.77)			(–2.41)			(–3.22)
ApprovalReq	–0.30		–0.20	–0.13		–0.17	–0.15		–0.15
	(–1.55)		(–0.94)	(–0.72)		(–0.86)	(–0.78)		(–0.78)
NotImplemented	1.04	1.18	0.96	0.74	0.66	0.71			
	(1.22)	(1.26)	(1.15)	(1.27)	(1.01)	(1.22)			
N	263	137	263	262	136	262	242	118	242
R^2	3.08%	6.19%	3.62%	5.49%	4.88%	3.85%	5.15%	6.43%	3.92%

Panel B presents analysis of abnormal returns around important days of the exchange program. The dependent variable *AdjRet* is the average risk-adjusted return over a (-5,+5) window around the announcement, approval and implementation dates for models (1) – (3), (4) – (6) and (7) – (9) respectively. The table presents the coefficient (*t*-stat) for each variable in the specification. *t*-statistics are adjusted for heteroskedasticity. *AdjRet* is the stock return minus the fitted value of the Fama-French three-factor model plus momentum, estimated over a period of -6,+6 months around the announcement, date expressed as a %. The rest of the variables are as defined in Panel A. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels (two-tail) respectively.

Table 4. Market reaction to option exchange programs (cont'd)

Panel C. Abnormal returns during the exchange versus the non-exchange period.

	Dependent Variable: *AdjRet*		
Variable	(1)	(2)	(3)
Intercept	–0.24**	0.04	–0.12***
	(–2.30)	(0.56)	(–2.60)
EPeriod	0.60***	0.21**	0.32***
	(3.40)	(1.97)	(4.65)
Restrictive	0.05		
	(1.54)		
*Restrictive*EPeriod*	–0.11**		
	(–2.48)		
ISSfor		0.02	
		(0.17)	
*ISSfor*EPeriod*		–0.25*	
		(–1.87)	
ISSfor			0.11
			(1.23)
*ISSforPred*EPeriod*			–0.36***
			(–3.37)
ApprovalReq	0.07		0.09
	(1.25)		(1.44)
N	42,741	23,228	42,741
R^2	0.06%	0.02%	0.06%

Panel C compares abnormal returns from the period prior to the announcement date to the exchange period. The dependent variable is daily risk-adjusted return (*AdjRet*). The panel includes daily observations within the period from 6-months prior to the announcement date to the close date. *AdjRet* is the daily risk-adjusted stock return estimated using the Fama-French three-factor model plus momentum, and expressed as a %. *EPeriod* is an indicator variable equal to 1 if the day falls in the exchange period (i.e., from the announcement date to the close date), and 0 otherwise. The rest of the variables are as defined in Panel A. The table presents the coefficient (*t*-stat) for each variable in the specification. *t*-statistics are clustered by day to adjust for cross-sectional correlation.

Table 5. Option exchanges and accounting performance

	Dependent Variable: ΔROA_t					
Variable	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	–0.06*	–0.05	–0.06	–0.07	–0.08**	–0.07**
	(–1.74)	(–1.46)	(–1.13)	(–1.22)	(–2.53)	(–1.99)
ΔROA_{t-1}		–0.46***		–0.62***		–0.46***
		(–2.82)		(–3.29)		(–2.84)
Restrictive	–0.01**	–0.01*				
	(–2.02)	(–1.86)				
ISSfor			–0.03*	–0.03**		
			(–1.91)	(–2.26)		
ISSforPred					–0.02*	–0.02**
					(–1.72)	(–1.96)
ApprovalReq	0.01	0.01			0.01	0.01
	(0.83)	(0.66)			(0.77)	(0.71)
NotImplemented	–0.04**	–0.03	–0.03	–0.02	–0.04**	–0.03
	(–1.96)	(–1.51)	(–1.58)	(–0.94)	(–1.98)	(–1.58)
Size	0.02***	0.02**	0.01	0.01*	0.01**	0.01**
	(2.70)	(2.45)	(1.60)	(1.87)	(2.49)	(2.36)
BM	0.00	0.00	0.00	0.00	0.00	0.00
	(–0.85)	(–0.71)	(0.35)	(–0.09)	(–0.64)	(–0.55)
Leverage	–0.01	0.00	0.00	0.00	–0.01	0.00
	(–0.98)	(–0.29)	(–0.23)	(–0.03)	(–0.84)	(–0.22)
IdVol	–0.18***	–0.13**	–0.16***	–0.11**	–0.18***	–0.12**
	(–3.52)	(–2.53)	(–3.31)	(–2.15)	(–3.41)	(–2.40)
Beta	0.00	–0.01	0.00	0.00	0.00	–0.01
	(0.09)	(–0.55)	(–0.30)	(–0.14)	(0.04)	(–0.59)
Ninstit	–0.13**	–0.12**	–0.07	–0.06	–0.12**	–0.11**
	(–2.41)	(–2.13)	(–1.46)	(–1.36)	(–2.42)	(–2.12)
PastReturn	–0.02*	–0.005	–0.02	0.003	–0.02*	–0.002
	(–1.97)	(–0.44)	(–0.70)	(0.11)	(–1.73)	(–0.23)
IndustryROA	0.12	0.10	0.14	0.24	0.09	0.08
	(0.75)	(0.61)	(0.40)	(0.67)	(0.56)	(0.46)
IndustryRet	–0.05**	–0.03*	–0.05	–0.03	–0.05**	–0.03
	(–2.17)	(–1.71)	(–1.02)	(–0.79)	(–2.07)	(–1.60)
Options	–0.02	–0.04	0.00	0.01	–0.04	–0.06
	(–0.39)	(–0.64)	(–0.02)	(0.09)	(–0.69)	(–0.88)
Adj R^2	13.31%	27.31%	10.68%	29.06%	12.57%	27.00%
N	264	264	137	137	264	264

Table 5 shows the results from estimating OLS regressions on the association between implementation of option exchanges and accounting performance. The table presents the coefficient (*t*-stat) for each variable in the specification. *t*-statistics are adjusted for heteroskedasticity. ΔROA_t is calculated as ROA_t-ROA_{t-1}, where ROA is net income scaled by total assets and *t* is the fiscal year of the option exchange. ΔROA_{t-1} is calculated as ROA_{t-1}-ROA_{t-2}, where *t* is the fiscal year of the option exchange. *Restrictive* is the number of restrictions in the plan, calculated as the sum of *Price-Floor*, *Vesting*, *Eligibility*, *Value-for-Value*, *Issuance-Date*, and *Share-Restrictions* (see Appendix B). *ISSfor* is an indicator variable equal to 1 if ISS recommended to vote in favor of the exchange and 0 if ISS recommended to vote against the exchange. *ISSforPred* is an indicator variable that equals *ISSfor* when ISS recommendation exists. When ISS recommendation does not exist, *ISSforPred* equals the predicted value of *ISSfor* using recursive partitioning (as diagrammed in Figure 1). *ApprovalReq* is an indicator variable equal to 1 if

shareholder approval is required and 0 otherwise. *NotImplemented* is an indicator variable equal to 1 if the exchange program was never implemented and 0 if the program was implemented. *Size* is the natural logarithm of market value. *BM* is the Book-to-market ratio. *Leverage* is total liabilities divided by total assets. *IdVol* is the idiosyncratic volatility, computed as the standard deviation of the residuals in a regression of daily returns on the value–weighted market return over 365 days prior to fiscal year end. *Beta* is the coefficient in a regression of daily firm return on the value-weighted market return over 365 days prior to fiscal year end. *Ninstit* is the number of institutional investors owning company shares expressed in thousands. *ROA* is return on assets (operating income scaled by total assets). *PastReturn* is the annually compounded return over the previous fiscal year using daily stock return data. *IndustryROA* is the median ROA among all the firms in the same 2-digit SIC code. *IndustryRet* is the median annually compounded stock return of all the firms in the same two-digit SIC code over the previous fiscal year. *Options* is the intensity of option compensation in the firm calculated as the number of options outstanding scaled by the number of shares outstanding. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels (two-tail) respectively.

Table 6. Option exchanges and executive turnover

	Dependent Variable: *Turnover*					
Variable	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	–0.69	–0.73	–0.70	–0.85	–0.35	–0.41
	(–1.40)	(–1.47)	(–0.71)	(–0.95)	(–0.70)	(–0.81)
LagTurnover		0.02		0.03		0.02
		(0.71)		(0.75)		(0.88)
Restrictive	0.15***	0.14**				
	(2.63)	(2.51)				
ISSfor			0.57**	0.46*		
			(2.39)	(1.90)		
ISSforPred					0.43**	0.42**
					(2.53)	(2.46)
ApprovalReq	–0.15	–0.16			–0.23	–0.24
	(–1.06)	(–1.12)			(–1.44)	(–1.53)
NotImplemented	0.04	0.05	–0.07	–0.08	0.15	0.16
	(0.15)	(0.19)	(–0.18)	(–0.22)	(0.58)	(0.62)
Nexecs	0.02	0.02	0.02	0.04*	0.02	0.02
	(1.43)	(1.41)	(1.20)	(1.88)	(1.46)	(1.45)
Size	0.23***	0.23***	0.20*	0.25**	0.22***	0.22***
	(3.40)	(3.32)	(1.83)	(2.37)	(3.19)	(3.11)
BM	–0.18**	–0.17**	–0.29**	–0.27**	–0.17*	–0.17*
	(–2.02)	(–1.98)	(–2.20)	(–2.16)	(–1.94)	(–1.88)
Leverage	–0.12	–0.11	0.54	–0.07	–0.08	–0.07
	(–0.42)	(–0.40)	(0.94)	(–0.23)	(–0.28)	(–0.27)
IdVol	4.94	5.09	6.59	–1.61	4.65	4.89
	(1.06)	(1.09)	(0.87)	(–0.44)	(0.98)	(1.03)
Beta	–0.08	–0.07	–0.21	–0.27	–0.07	–0.07
	(–0.62)	(–0.60)	(–1.00)	(–1.26)	(–0.59)	(–0.58)
Ninstit	–0.69	–0.68	–1.03	–1.60	–0.69	–0.69
	(–0.95)	(–0.92)	(–1.03)	(–1.55)	(–0.93)	(–0.91)
ROA	–0.74***	–0.74***	–0.69*	–1.33***	–0.69***	–0.70***
	(–3.01)	(–3.03)	(–1.82)	(–4.67)	(–2.75)	(–2.78)
PastReturn	–0.14	–0.12	0.57	0.38	–0.16	–0.14
	(–0.91)	(–0.76)	(1.35)	(0.93)	(–1.07)	(–0.88)
IndustryROA	–1.54	–1.52	–1.02	–1.27	–1.31	–1.32
	(–1.18)	(–1.16)	(–0.38)	(–0.48)	(–1.00)	(–1.01)
IndustryRet	2.97***	2.96***	1.56***	1.71***	2.81***	2.81***
	(8.79)	(8.78)	(2.88)	(3.40)	(8.27)	(8.28)
Options	–1.84**	–1.73*	0.39	0.02	–1.36	–1.25
	(–2.08)	(–1.91)	(0.21)	(0.01)	(–1.58)	(–1.43)
N	250	250	132	132	250	250
p-value for χ^2	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Table 6 presents results from estimating a zero-inflated Poisson regression on the association between executive turnover and characteristics of the option exchange programs. *Turnover* is the number of executives that left the company during *t* and *t*+1, where *t* is the fiscal year of the exchange program. *LagTurnover* is the number of executives that left the company during *t*-2 and *t*-1. *Size* is the natural logarithm of market value. *BM* is the Book-to-market ratio. *Leverage* is total liabilities divided by total assets. *IdVol* is the idiosyncratic volatility, computed as the

standard deviation of the residuals in a regression of daily returns on the value–weighted market return over 365 days prior to fiscal year end multiplied by squared root of 250. *Beta* is the coefficient in a regression of daily firm return on the value-weighted market return over 365 days prior to fiscal year end. *Ninstit* is the number of institutional investors owning company shares expressed in thousands. *ROA* is return on assets (operating income scaled by total assets). *PastReturn* is the annually compounded return over the previous fiscal year using daily stock return data. *IndustryROA* is the median *ROA* among all the firms in the same 2-digit SIC code in the previous fiscal year. *IndustryRet* is the median annually compounded stock return of all the firms in the same two-digit SIC code over the previous fiscal year. *Options* is the intensity of option compensation in the firm calculated as the number of options outstanding scaled by the number of shares outstanding. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels (two-tail) respectively.

Table 7. Option exchanges and insider trading

Panel A. Insider trading activity in exchanging firms during the 6-month period before the exchange.

	Nbuys			*Nsales*			*Alpha*		
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intercept	–0.30	–0.42*	–0.64***	–0.16**	–0.02**	–0.14***	19.55**	15.50***	10.00***
	(–1.37)	(–1.92)	(–4.90)	(–2.51)	(–2.40)	(–3.88)	(2.55)	(3.32)	(2.68)
Restrictive	–0.13**			0.01			–3.64		
	(–2.00)			(0.48)			(–1.52)		
ISSfor		–0.84**			0.01			–17.64***	
		(–2.42)			(0.83)			(–2.90)	
ISSforPred			–0.52**			0.06			–12.71*
			(–2.41)			(1.03)			(–1.70)
ApprovalReq	0.33*		0.37**	–0.04		–0.05	2.69		3.91
	(1.87)		(2.10)	(–0.73)		(–1.01)	(0.43)		(0.57)
NotImplemented	0.15	0.08	0.07	–0.13	0.00	–0.12	24.98*	25.83	23.11
	(0.54)	(0.17)	(0.24)	(–1.40)	(–0.22	(–1.22)	(1.66)	(1.52)	(1.54)
N	264	137	264	264	137	264	264	137	264
p-value for χ^2	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Panel A presents results from tobit regressions to test cross-sectional differences in insider trading activity over the 6 months prior to the announcement of the option exchange program. The table presents the coefficient (*t*-stat) for each variable in the specification. *Nbuys* is the average number of firm shares bought by insiders in open market transactions scaled by the number of shares outstanding in the firm. *Nsales* is the average number of firm shares sold by insiders in open market transactions scaled by the number of shares outstanding in the firm. *Alpha* is the 6-month average abnormal return of insider trades estimated using the four-factor model (Fama-French plus momentum). *Restrictive* is the number of restrictions in the plan, calculated as the sum of *Price-Floor, Vesting, Eligibility, Value-for-Value, Issuance-Date,* and *Share-Restrictions* (see Appendix B). *ISSfor* is an indicator variable equal to 1 if ISS recommended to vote in favor of the exchange and 0 if ISS recommended to vote against the exchange. *ISSforPred* is an indicator variable that equals *ISSfor* when ISS recommendation exists. When ISS recommendation does not exist, *ISSforPred* equals the predicted value of *ISSfor* using recursive partitioning (as diagrammed in Figure 1). *ApprovalReq* is an indicator variable equal to 1 if shareholder approval is required and 0 otherwise. *NotImplemented* is an indicator variable equal to 1 if the exchange program was never implemented and 0 if the program was implemented. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels (two-tail) respectively.

Table 7. Option exchanges and insider trading (cont'd)

Panel B. Insider trading activity in exchanging firms during the (-12, -6) month period before the exchange.

	Nbuys			*Nsales*			*Alpha*		
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intercept	–1.68***	–0.11***	–1.41***	–1.15***	–1.68***	–0.97***	–14.43	–18.79	7.83**
	(–3.27)	(–3.69)	(–4.75)	(–2.63)	(–3.75)	(–4.05)	(–0.78)	(–0.85)	(2.41)
Restrictive	0.10			0.07			8.33		
	(0.68)			(0.53)			(1.26)		
ISSfor		0.00			0.29			20.60	
		(0.07)			(0.48)			(0.94)	
ISSforPred			0.16			0.40			18.68
			(0.34)			(0.97)			(1.09)
ApprovalReq	–0.31		–0.26	–0.29		–0.37	–26.02		–24.86
	(–0.78)		(–0.65)	(–0.84)		(–1.05)	(–1.45)		(–1.38)
NotImplemented	0.10	0.11**	0.10	1.15**	1.34	1.23**	7.87	9.21	8.93
	(0.16)	(2.02)	(0.14)	(2.01)	(1.56)	(2.12)	(0.46)	(0.39)	(0.48)
N	264	137	264	264	137	264	264	137	264
p-value for χ^2	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Panel B presents results from tobit regressions to test cross-sectional differences in insider trading activity over the control period of (–12, –6) months previous to the announcement of the option exchange program. The table presents the coefficient (*t*-stat) for each variable in the specification. The rest of the variables are as defined in Panel A. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels (two-tail) respectively.

Table 8. Comparison of exchange and non-exchange firms

Panel A. Characterization of the decision to introduce exchange programs.

	Dependent Variable: *Exchange* (logit)		
Variable	(1)	(2)	(3)
Intercept	–5.55***	–6.39***	–4.84***
	(–17.15)	(–8.59)	(–6.20)
Size	0.10*	0.09	–0.01
	(1.64)	(0.81)	(–0.13)
BM	–0.01	0.01	0.00
	(–1.13)	(0.29)	(0.20)
Leverage	–0.41	0.07	0.02
	(–1.55)	(0.25)	(0.09)
IdVol	3.44**	7.18*	–0.68
	(2.25)	(1.69)	(–0.18)
Beta	0.26***	0.07	0.27*
	(2.78)	(0.51)	(1.91)
Ninstit	–0.37	–0.62	–0.91
	(–0.53)	(–0.62)	(–0.81)
ROA	–0.05	–0.24	–0.09
	(–0.73)	(–1.21)	(–0.45)
PastReturn	–1.73***	–1.86***	–1.84***
	(–7.31)	(–5.91)	(–6.02)
IndustryROA	6.00***	4.81***	5.52***
	(4.43)	(2.98)	(3.12)
IndustryRet	–0.99***	–1.15***	–1.61***
	(–3.07)	(–2.74)	(–4.02)
Options	1.44***	8.95***	7.60***
	(3.23)	(8.94)	(8.13)
Pct(ISS|disagreement)		0.48	
		(1.16)	
Nactivists			0.05
			(1.20)
ExcessComp			0.02
			(1.36)
NumDirectors			–0.03
			(–0.70)
PctIndepDir			–1.28*
			(–1.91)
PctBoardOld			–0.88
			(–1.57)
PctBoardBusy			0.57
			(1.51)
OutsideChair			0.32*
			(1.74)
PctApptdCEO			–0.13
			(–0.48)
PctFoundingDirs			3.06**
			(2.43)
Staggered			0.13
			(0.82)
DualClass			0.29
			(0.90)
N	11,786	5,506	6,544
p-value for χ^2	< 0.01	< 0.01	< 0.01
Pseudo R^2	10.78%	14.82%	16.72%

Panel A presents results of estimating a logistic regression on the adoption of option exchanges taking as a control group all the firms in the same two-digit SIC industry group in the fiscal year of the exchange. The table presents the

coefficient (*t*-stat) for each variable in the specification. *t*-statistics are adjusted for heteroskedasticity. *Exchange* is an indicator variable equal to 1 if the firm announced a stock option exchange in the year, and 0 otherwise. *Size* is the natural logarithm of market value. *BM* is the Book-to-market ratio. *Leverage* is total liabilities divided by total assets. *ROA* is return on assets (operating income scaled by total assets). *IndustryROA* is the median *ROA* among all the firms in the same 2-digit SIC code in the previous fiscal year. *IndustryRet* is the median annually compounded stock return of all the firms in the same two-digit SIC code over the previous fiscal year. *PastReturn* is the annually compounded return over the previous fiscal year using daily stock return data. *IdVol* is the idiosyncratic volatility, computed as the standard deviation of the residuals in a regression of daily returns on the value–weighted market return over 365 days prior to fiscal year end. *Beta* is the coefficient in a regression of daily firm return on the value-weighted market return over 365 days prior to fiscal year end. *Ninstit* is the number of institutional investors owning company shares expressed in thousands. *Options* is the intensity of option compensation in the firm calculated as the number of options outstanding scaled by the number of shares outstanding. *Pct(ISS|disagreement)* is the percentage of institutional investors whose vote is the same as the ISS recommendation, given that the ISS recommendation is different from the management recommendation in shareholder proposals for the three years prior to the exchange. *Nactivists* is the number of activists (as defined by Cremers and Nair, 2005) that own stock in the company. *ExcessComp* is the total annual pay for the CEO (measured in millions) less the median total annual pay for all CEOs in that year for all firms with the same two-digit SIC code and in the same size quintile. *NumDirectors* is the natural logarithm of the number of directors on the Board. *PctIndepDir* is the percentage of board members classified as independent directors (i.e., not insiders or affiliated). *PctBoardOld* is the percentage of board members who are at least 69 years old. *PctBoardBusy* is the percentage of Board members who serve on at least two public company boards of directors. *OutsideChair* is an indicator that equals one if the chairman of board is classified as an outsider and zero otherwise. *PctApptdCEO* is the percentage of board members classified as outsiders who were appointed after the current CEOs term began. *PctFoundDirs* is the percentage of board members who are founders of the company. *Staggered* is an indicator that equals one if the company's board members are all elected annually and zero otherwise. *DualClass* is an indicator that equals one if the company has multiple classes of shares with unequal voting rights and zero otherwise. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels (two-tail) respectively.

Table 8. Comparison of exchange and non-exchange firms (cont'd)

Panel B. Propensity score matching results.

	Means			*Medians*		
Variable	Exchange Firm	Matched Control	*t*-test *t*-stat	Exchange Firm	Matched Control	Wilcoxon *z*-stat
Size	5.75	6.43	–3.65	5.73	6.63	–3.83
BM	0.58	0.84	–2.07	0.59	0.67	–1.86
Leverage	0.20	0.21	–0.77	0.07	0.18	–4.26
Idvol	0.05	0.04	0.80	0.04	0.03	2.04
Beta	1.16	1.25	–1.65	1.10	1.18	–1.64
Ninstit	0.12	0.19	–4.35	0.08	0.12	–3.29
ROA	–0.08	0.00	–3.87	–0.01	0.04	–5.31
PastReturn	–0.40	–0.41	0.36	–0.46	–0.46	0.03
IndustryROA	0.05	0.05	–1.39	0.05	0.06	–2.92
IndustryRet	–0.26	–0.28	0.51	–0.40	–0.36	0.84
Options	0.14	0.08	10.41	0.13	0.06	10.51

In Panel B, a control group is formed using propensity-score matching. Propensity scores are obtained using model 1 (panel A). Panel B shows differences across covariates between the treatment group and the control group for 264 pairs. The variables are as defined in Panel A. *t*-stats. and *z*-stats. are included for *t*-test and Wilcoxon, respectively.