

SECURITIES LENDING AROUND PROXIES: IS THE INCREASE IN LENDING DUE TO PROXY ABUSE OR A RESULT OF DIVIDENDS?

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Abstract

The notion of empty voting, or borrowing shares of stock to vote without an equivalent economic interest, has captured the attention of both the financial press and financial researchers. We investigate the securities lending market around proxy record dates for evidence of proxy abuse. We verify a weak statistical effect for share capture at the proxy. However, after controlling for dividend record dates (when more stock lending activity occurs), incremental equity lending activity at the proxy is indistinguishable from zero.

JEL Classification: G12, G21, G34

I. Introduction

Hu and Black (2006) and Christoffersen et al. (2007) suggest that the security lending market is used to capture corporate proxy votes. This research implies that vote capturing is abusive and that regulatory changes to curb it could restrict the ability of short sellers to obtain shares in order to short securities. The implications of these studies cast a cloud over the securities lending market, where the primary purpose is to provide a location for short sellers to borrow securities. Short sellers' unencumbered access to the equity lending market is desirable as empirical evidence of Dechow et al. (2001), Boehmer, Jones, and Zhang (2008), Diether, Lee, and Werner (2009a, 2009b), and Boehmer, Huszar, and Jordan (2010) show that short sellers are beneficial to markets.

The purpose of this study is to examine the securities lending market around proxy record dates to determine whether there exists evidence of potential proxy abuse. We are motivated by the Christoffersen et al. (2007) study, which finds an increase in security lending around proxy record dates. The data for the Christoffersen et al. study is from a single custodial bank and spans November 1998 to October 1999. They find that loaned shares increase from 0.22% on average to 0.275% on the proxy record date, suggesting possible vote trading in the securities lending market. Although the 0.055% increase is statistically significant, we question the economic significance of a 1/18% increase in volume on the outcome of most proxy votes.¹ A few cases in the financial and

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¹ Smith (2012) cites that proposals get 92% approval on average and that average voter turnout is 88%.

legal literature show that empty voting² swayed the outcome of a shareholder vote.³ But empirical data on the size and scope of empty voting are lacking.⁴

Furthermore, Christoffersen et al. (2007) find that the average vote sells for zero. Although we find the implications of the Christoffersen et al. study intriguing, it is puzzling that lending fees do not increase when the demand for lendable securities increases. Economic theory tells us that, *ceteris paribus*, when the demand for a good, especially a valuable good, increases, the price of that good increases as well. Christoffersen et al. argue that there is no increase in fees as the lenders are uninformed. Although it may be reasonable to assume that some ultimate lenders of the securities, the investors who grant their custodial banks the ability to lend their securities, are uninformed, it is not reasonable to believe that the custodial banks lending the securities are uninformed.

We are studying the same issue as Christoffersen et al. (2007) as we believe that there are one or more alternate explanations for their findings. Specifically, we believe that one explanation for the 0.055% increase found by Christoffersen et al. may be the coincidence of the dividend record date and the proxy record date. Although the two do not coincide frequently in our data set, the magnitude of the impact of the dividend record date is sufficient to drive the small increase found on the proxy record date.

There are several tax-motivated reasons why the dividend record date may affect securities lending. These reasons revolve around the tax advantage of qualified dividends and corporate dividends received deduction (DRD) and tax-arbitrage strategies.

The owner of a security can allow his or her security to be lent for the likely purpose of the security being sold short. If a dividend is paid while the security is on loan, the lender of the security is entitled to receive a substitute or manufactured dividend, paid by the borrowing broker (and typically charged to the short seller). Individual taxpayers in the United States are taxed a maximum rate of 15% on qualified dividends. However, manufactured, or substitute, dividends are not considered qualified dividends and therefore are taxed at a less favorable rate. Therefore, in many cases, brokers replace their customers' borrowed securities so that they will have sufficient securities in their possession to ensure that clients receive the tax benefit of receiving qualified dividends.⁵

Furthermore, the substitute, or manufactured, dividend does not qualify for the corporate DRD as it is not a true dividend payment. The DRD is a tax deduction received by a corporation on the dividends paid to it by companies in which it has an ownership stake. The current owner, not the lender, receives all the rights of ownership including qualified dividends and/or DRDs. To take advantage of the DRD, corporate lenders need to either call back their shares or borrow shares for the dividend record date.⁶

²Empty voting occurs when a shareholder has voting rights but not the full economic interest in the shares being voted.

³Christoffersen et al. (2007) cite a British Land Proxy vote; Hu and Black (2006) cite a Henderson Investment vote.

⁴Concept Release on the U.S. Proxy System, Release No. 34-62495, July 14, 2010.

⁵We would like to thank the Risk Management Association and the Center for the Study of Financial Market Evolution for this explanation of the short lending market around dividend record dates.

⁶Some institutional lenders, such as nonprofits, pension funds, educational institutions, and endowments, are exempt from dividend taxation and hence will not need to recall or borrow shares around dividends.

Thornock (2011) studies the effects of dividend taxation on the parties involved in short transactions using a proprietary database that identifies the tax sensitivity of lenders to stocks on loan. He finds that the supply of shortable shares decreases and equity lending fees increase around the dividend record date. He attributes these results to dividend taxation. He further splits his sample into tax-sensitive and tax-neutral lenders. He finds that lending fees increase and loan quantities decrease around dividend record dates for tax-sensitive lenders, while fees increase but loan quantities remain the same for tax-neutral lenders.

We verify an increase in securities lending around proxy dates, which is consistent with Christoffersen et al. (2007), but unlike Christoffersen et al., we find that loan fees increase as well. More important, we find that the proxy record date does not influence the percentage of shares loaned when the dividend record date is taken into consideration, but the dividend record date does. Given that our sample data set is centered around proxy record dates, we are initially unable to verify that dividend record date affect loan fees in a multivariate setting (although the increase in loan fees surrounding the dividend record date is depicted in Figure IV).⁷ We hypothesize that the reason for the lack of influence is that dividend-paying stocks are generally cheaper to borrow and that we have fewer dividend record date observations given that our data are centered on the proxy record date. Our analyses suggest that the increase in securities lending is driven not by lending around proxy record dates but by lending and borrowing around dividend record dates.

II. Data

The data for this study are supplied by the member banks of the Risk Management Association. To facilitate research on whether there are potential abuses in the securities lending market, the Center for the Study of Financial Market Evolution collected and compiled the short lending data (as well as the proxy dates) for this study. Our data consist of more than 20 million equity loans for more than 7,000 unique U.S. stocks, and it spans January 2005 through December 2008. The data come from eight global security lending agents and represents nearly 50% of all U.S. stock loan activity.

The data include loan and transaction identifiers, daily loan balances, prices (rebates or fees), loan tenure, and collateral values. We augment our short lending data with data from the Center for Research in Security Prices (CRSP) (dividend record dates, stock price, turnover, bid–ask spread, and prior-week return) and Compustat (size and book–market ratio). Furthermore, we obtain institutional ownership data from the Thomson-Reuters Institutional Holdings (13F) Database and a governance index used in Aggarwal et al. (2010) from Reena Aggarwal’s website (<http://faculty.msb.edu/aggarwal/Gov.xls>). After merging the data sets, we check our data for outliers, and cap both

⁷We repeat our analysis with the data centered on the dividend record date (rather than the proxy record date) and find that not only does the percentage of short lending increase, but loan fees do as well.

TABLE 1. Descriptive Statistics.

Variable	Mean	Std. Dev	Min	25%ile	Median	75%ile	Max
Panel A. Variables of Interest							
<i>Percentage of Shares Loaned</i>	3.11%	5.97%	0.00%	0.27%	1.37%	3.83%	100.00%
<i>Loan Fee % (equal weighted)</i>	0.47%	1.17%	-0.72%	0.05%	0.12%	0.25%	6.97%
<i>Loan Fee % (share weighted)</i>	0.55%	1.30%	-0.71%	0.06%	0.13%	0.28%	7.62%
<i>Loan Fee % (market weighted)</i>	0.56%	1.31%	-0.70%	0.06%	0.13%	0.29%	7.61%
Panel B. Controls							
<i>Size</i>	20.12	1.84	13.88	18.84	20.00	21.26	26.89
<i>Price < \$5</i>	0.14	0.35	0.00	0.00	0.00	0.00	1.00
<i>Turnover (%)</i>	0.82%	1.01%	0.00%	0.20%	0.50%	1.03%	6.29%
<i>Spread (%)</i>	0.56%	1.03%	0.00%	0.08%	0.19%	0.52%	6.52%
<i>Prior-Week Return (%)</i>	0.07%	5.64%	-18.32%	-2.61%	0.00%	2.65%	19.67%
<i>Book/Market</i>	1.34	4.25	-0.44	0.30	0.51	0.79	32.46
<i>Institutional Ownership %</i>	59.18%	30.44%	0.00%	33.54%	63.48%	86.05%	100.00%
<i>IO Concentration</i>	0.10	0.12	0.00	0.04	0.06	0.11	1.00
<i>Governance Index</i>	0.63	0.10	0.32	0.56	0.63	0.71	0.93

Note: The sample is all proxy-firm observations (18,523) in which a stock loan was outstanding during 2005–2008. *Percentage of Shares Loaned* is the number of shares loaned divided by the number of shares outstanding, and multiplied by 100 (i.e., in percentage terms). *Loan Fee % (equal weighted)* is the average loan fee (fed funds rate – rebate rate) for all open stock loans for a particular firm. *Loan Fee % (share weighted)* is weighted by the number of shares in each loan. *Loan Fee % (market weighted)* is weighted by the market value of each loan. *Size* is the natural log of the firm's market capitalization. *Price < \$5* is a dummy equal to 1 if the stock trades for less than \$5. *Turnover* is daily volume divided by shares outstanding. *Spread* is the bid–ask spread. *Prior-Week Return* is the cumulative prior five-day return. *Book/Market* is the annual book–market ratio. *Institutional Ownership* is the quarterly percentage of shares owned by institutions. *IO Concentration* is the Herfindahl index of institutional ownership. *Governance Index* is the governance index from Aggarwal et al. (2010).

institutional ownership and proportion of shares on loan at 100%. We winsorize turnover, bid–ask spread, prior-week return, and book–market ratio at the 1% and 99% levels.

Our main variable of interest is the proportion of shares on loan, which we define as the number of shares on loan for a particular firm divided by the number of shares outstanding for that firm. To facilitate calculation of this variable, we line up all equity loans for a particular company in time and cumulate the number of shares on loan across all loans for that particular company on each day in our sample period. We then identify the proxy record dates, which we term a proxy-firm observation, and retain the 20 days surrounding the proxy date. As we are interested in determining whether there is unusual activity in the equity lending market surrounding proxy record dates, we exclude a proxy-firm observation if there is a subsequent proxy date for that firm within 10 days. Our final sample consists of 18,523 proxy-firm observations; summary statistics for these observations are provided in Table 1. We calculate loan fees three ways. *Loan Fee % (equal weighted)* is the average loan fee (fed funds rate – rebate rate) for all open stock loans for a particular firm. *Loan Fee % (share weighted)* is weighted by the number of shares in each loan. *Loan Fee % (market weighted)* is weighted by the market value of each. The loan fees average about $\frac{1}{2}$ of 1%. Therefore, our sample verifies that it is not costly to gain control of equity shares. We find that the average percentage of shares loaned at any given time is 3.1% across the eight security lending agents in our sample.

TABLE 2. Descriptive Statistics by Year.

Variable	2005	2006	2007	2008
<i>Percentage of Shares Loaned</i>	2.71%	2.70%	3.41%	3.61%
<i>Loan Fee % (equal weighted)</i>	0.45%	0.57%	0.52%	0.34%
<i>Loan Fee % (share weighted)</i>	0.51%	0.67%	0.60%	0.42%
<i>Loan Fee % (market weighted)</i>	0.51%	0.67%	0.61%	0.43%
<i>Percentage Special</i>	12.95%	14.47%	14.08%	14.27%

Note: The sample is all proxy-firm observations (18,523) in which a stock loan was outstanding during 2005–2008. *Percentage of Shares Loaned* is the number of shares loaned divided by the number of shares outstanding, and multiplied by 100 (i.e., in percentage terms). *Loan Fee % (equal weighted)* is the average loan fee (fed funds rate – rebate rate) for all open stock loans for a particular firm. *Loan Fee % (share weighted)* is weighted by the number of shares in each loan. *Loan Fee % (market weighted)* is weighted by the market value of each loan. *Percentage Special* is the percentage of proxies where the stock carries a loan fee in excess of 100 basis points.

It is worth noting that both variables of interest (percentage of shares loaned and loan fees) exhibit significant right skewness.

In terms of how our sample compares to the extant literature, Christofferson et al. (2007) report average percentage shares loaned of 0.22%. However, their sample is from one bank, whereas ours is from eight. They also report average loan fees of 20 basis points. A more recent paper by Aggarwal, Saffi, and Sturgess (2011) reports data similar to ours (3.3% of shares loaned at 42 basis points).

Table 2 delineates some of our sample statistics by year. The average percentage of shares on loan ranges from about 2.75% to more than 3.5% from 2005 to 2008. It is not surprising that we see heightened lending activity in 2007 and 2008 given the credit-induced market volatility in those years. The loan fees hover around $\frac{1}{2}$ of 1%, ranging from a low of 0.34% (equal weighted) in 2008 to a high of 0.67% (share and market weighted) in 2006. The proportion of special stocks—stocks that are deemed hard to borrow and carry a loan fee in excess of 100 basis points—ranges from 12.95% of our 2005 sample to 14.47% of our 2006 sample. As a stock’s specialness can vary from day to day, we determine whether the proxy record date is in our special stock subsample or nonspecial stock subsample by whether the stock has an average loan fee over 100 basis points over the 21-day proxy record date window.

III. Results

At first glance, our empirical evidence verifies the core finding of Christoffersen et al. (2007). Figure I shows that equity lending generally increases the 10 days before the proxy record date, peaks on the actual date, and then generally declines in the days that follow. It should be noted, though, that the pattern pales in comparison to the pattern seen around dividend record dates (see Figure II, which includes the proportion of shares on loan for all dividend record dates in our data).

In terms of loan fees, our findings differ from one of the findings of Christoffersen et al. (2007), namely, that proxy votes can be obtained costlessly. In Figure III, we show that loan fees increase on the proxy record date. Although the figure shows a spike in loan

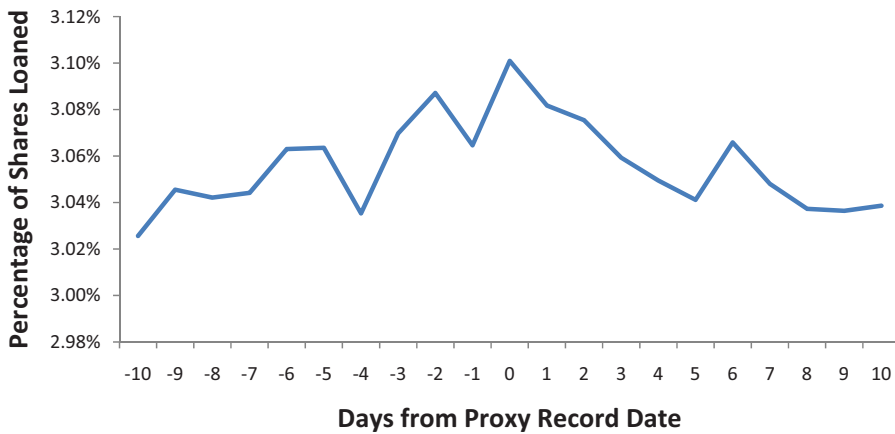


FIGURE I. Percentage of Shares Loaned. This figure displays the average percentage of shares loaned for the 18,523 proxy record dates in our sample. In addition, it shows the average percentage of shares loaned for each of the 10 days before the proxy record date and each of the 10 days after the proxy record date.

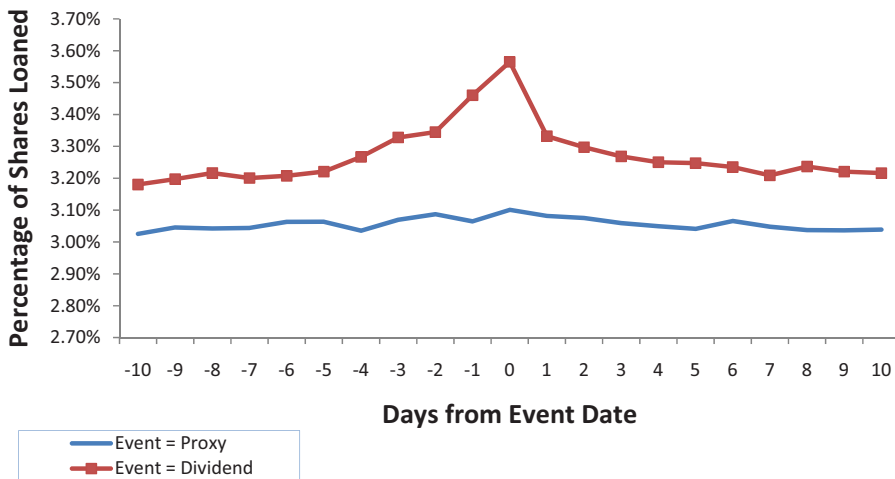


FIGURE II. Percentage of Shares Loaned. This figure displays the average percentage of shares loaned for the 18,523 proxy record dates in our sample and the average percentage of shares loaned for the 28,561 dividend record dates in our sample. In addition, it shows the average percentage of shares loaned for each of the 10 days before the event date (proxy or dividend) and each of the 10 days after the event date.

fees around the proxy record date, this increase is only about 3 to 4 basis points, which is not an economically significant increase. To further illustrate, this pattern around the proxy record is not as pronounced as when we look at loan fees around dividend record dates (see Figure IV). At first blush, it appears odd that although loan fees spike more around dividend dates, they are still lower than fees around proxy dates. We hypothesize that lower loan fees for dividend-paying stocks are due to the fact that companies that pay dividends are likely to have fewer free cash flow problems in terms of disgorging excess cash (Jensen 1986). Because of fewer agency problems associated with free cash flow, the risk associated with these securities and, hence, the fees charged for lending these

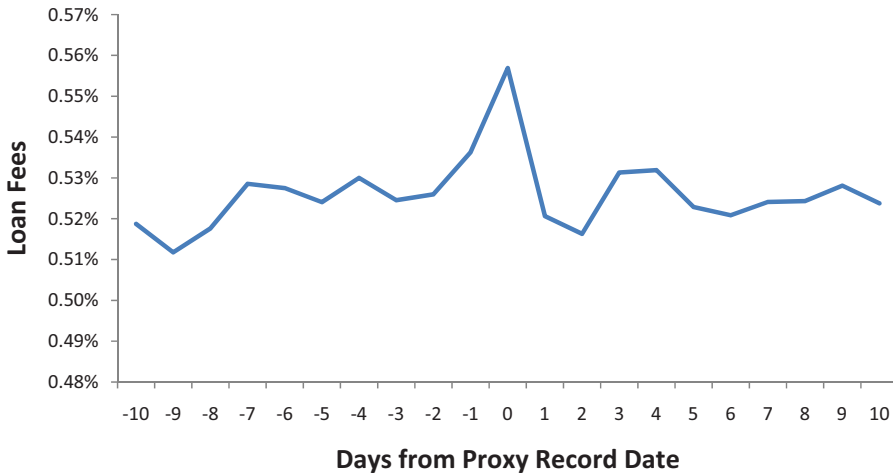


FIGURE III. Loan Fees. This figure displays the average loan fees (share-weighted) for the 18,523 proxy record dates in our sample. In addition, it shows the average loan fees for each of the 10 days before the proxy record date and each of the 10 days after the proxy record date.

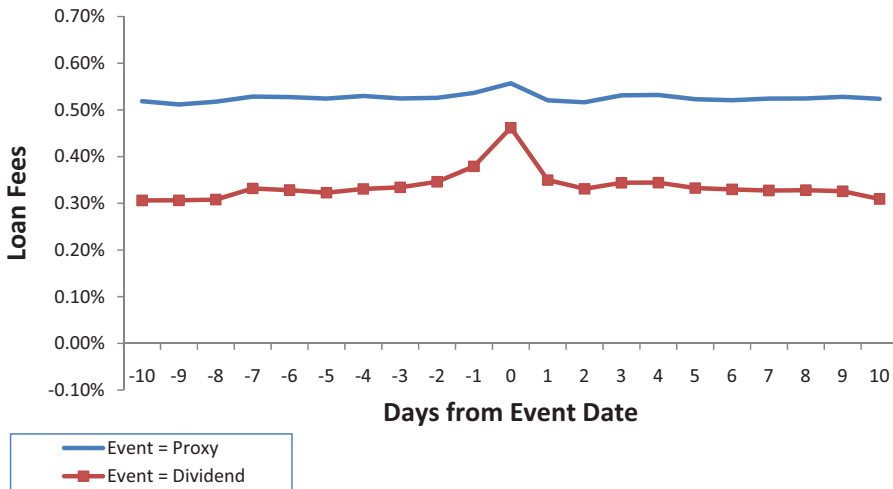


FIGURE IV. Loan Fees. This figure displays the average loan fees (share-weighted) for the 18,523 proxy record dates in our sample and the average loan fees for the 28,561 dividend record dates in our sample. In addition, it shows the average loan fees for each of the 10 days before the event date (proxy or dividend) and each of the 10 days after event date.

securities are lower. In fact, we find that loan fees are twice as high for non-dividend-paying stocks during our entire sample period (not just around the proxy or dividend dates). Loan fees average 0.76% for stocks that do not pay dividends, but only 0.37% for stocks that do.

Of course, other factors may drive equity lending and loan fees. Hence, we follow a method similar to Aggarwal, Saffi, and Sturgess (2011), who look at the determinants of the equity lending market in the period surrounding the proxy voting record date. We look

at equity lending on the proxy record date as well as the 10 days before and 10 days after the date. Aggarwal, Saffi, and Sturgess estimate their regressions separately for both abnormal lending supply and borrowing demand, where borrowing demand is the dollar amount on loan relative to market capitalization. Also, they include independent regressors, which control for relations previously found in the literature (Christoffersen et al., 2007; D'Avolio 2002; Saffi and Sturgess 2010). Specifically, borrowing demand is expected to be higher for stocks with greater institutional ownership and more dispersed institutional ownership, and for stocks that are more liquid (i.e., higher turnover and lower spreads), and lower for stocks that are priced below \$5.

$$\begin{aligned}
 \text{Percentage Shares Loaned} = a_i + & \beta_1 \text{Proxy Record Date} \\
 & + \beta_2 \text{Dividend Record Date} + \beta_3 \text{Size} \\
 & + \beta_4 \text{Price } \$5 + \beta_6 \text{Turnover} + \beta_7 \text{Spread} \\
 & + \beta_8 \text{Prior-Week Return} + \beta_9 \text{Book/Market} \\
 & + \beta_{10} \text{Institutional Ownership} \\
 & + \beta_{11} \text{IO Concentration} \\
 & + \beta_{12} \text{Governance Index.} \tag{1}
 \end{aligned}$$

Table 3 reports the results of our regression estimation. The dependent variable, *Percentage of Shares Loaned*, is defined as the number of shares loaned divided by the number of shares outstanding. We estimate the equation three times. The first includes our main variable of interest, a *Proxy Record Date* dummy to determine whether equity lending activity differs on this date. The second estimation adds *Governance Index*, from Aggarwal et al. (2010), to determine the effect of firm-level corporate governance on the proportion of shares on loan. In general, we anticipate that more poorly governed companies will have higher borrowing demand for purposes of short selling their shares. The negative coefficients in columns 2 and 3 confirm this prediction and are consistent with Aggarwal, Saffi, and Sturgess (2011). Last, we include a dummy variable, *Dividend Record Date*, to investigate whether the proportion of shares on loan is relatively different on the dividend record date. *Dividend Record Date* is equal to 1 on the dividend record date. In all, 2,936 proxies have dividend record dates during the 21-day period used in the regression analysis.

We include *Size*, the natural log of the firm's market capitalization. We do not have a clear prediction as to whether larger companies should be shorted more often. On the one hand, larger companies tend to have fewer information asymmetries and thus lighter shorting demand. However, on the supply side, larger companies have higher institutional ownership. Ultimately, the relation is an empirical issue, and we find that *Size* is positively correlated with equity lending, once we control for governance. This finding is contrary to extant research by Aggarwal, Saffi, and Sturgess (2011), who find firm size to be negatively related to both the supply and demand of lendable shares. *Price < \$5* is a dummy equal to 1 if the stock trades for less than \$5. We expect these stocks will see elevated shorting volume given their increased downside risk as well as higher potential for asymmetric information. However, we find the coefficient not significantly different from zero in our regressions. *Turnover* is daily volume divided by shares outstanding. Its coefficient is strongly positive, which is intuitive given that shares that are traded more,

TABLE 3. Dependent Variable Is Percentage of Shares Loaned.

	(1) Coeff. (t-stat)	(2) Coeff. (t-stat)	(3) Coeff. (t-stat)
Constant	-0.510*** (2.91)	-1.498*** (6.68)	-1.477*** (6.59)
<i>Proxy Record Date</i>	0.084* (1.93)	0.080* (1.86)	0.064 (1.50)
<i>Dividend Record Date</i>			0.573*** (5.29)
<i>Size</i>	-0.006 (0.67)	0.049*** (4.46)	0.047*** (4.35)
<i>Price < \$5</i>	0.017 (0.58)	-0.049 (1.51)	-0.045 (1.39)
<i>Turnover</i>	72.913*** (44.56)	92.365*** (49.62)	92.415*** (49.64)
<i>Spread</i>	-3.974*** (4.20)	-8.318*** (9.62)	-8.335*** (9.64)
<i>Prior-Week Return</i>	-0.625*** (3.19)	-0.418** (1.97)	-0.419** (1.98)
<i>Book/Market</i>	0.012 (1.30)	0.298*** (7.43)	0.296*** (7.39)
<i>Institutional Ownership</i>	5.442*** (108.81)	5.615*** (100.37)	5.620*** (100.45)
<i>IO Concentration</i>	-1.418*** (15.54)	-0.087 (1.20)	-0.085 (1.17)
<i>Governance Index</i>		-0.999*** (6.57)	-1.005*** (6.61)
Observations	331,506	267,478	267,478
R ²	0.135	0.178	0.178

Note: The sample is all proxy record dates and the 20 surrounding trading days during 2005–2008. In each regression, the dependent variable is *Percentage of Shares Loaned*, defined as the number of shares loaned divided by the number of shares outstanding, and multiplied by 100 (i.e., in percentage terms). *Proxy Record Date* is a dummy equal to 1 on the record date. *Dividend Record Date* is a dummy equal to 1 on the record date. *Size* is the natural log of the firm's market capitalization. *Price < \$5* is a dummy equal to 1 if the stock trades for less than \$5. *Turnover* is daily volume divided by shares outstanding. *Spread* is the bid–ask spread. *Prior-Week Return* is the cumulative prior five-day return. *Book/Market* is the annual book–market ratio. *Institutional Ownership* is the quarterly percentage of shares owned by institutions. *IO Concentration* is the Herfindahl index of institutional ownership. *Governance Index* is the governance index from Aggarwal et al. (2010). 2006, 2007, and 2008 are dummies equal to 1 if the loan was open in those years (suppressed in the table). Absolute values of *t*-statistics are in parentheses and are calculated using Newey–West standard errors.

***Significant at the 1% level.

**Significant at the 5% level.

*Significant at the 10% level.

that is, more liquid, are also more likely to be shorted. *Spread* is the bid–ask spread. As in Aggarwal, Saffi, and Sturgess, we expect and find a negative relation with *Spread*. *Prior-Week Return* is the cumulative prior five-day return. Momentum short sellers short stocks after price declines. Indeed, we find a negative relation between shares on loan and *Prior-Week Return*. *Book/Market* is the annual book–market ratio, and high book–market ratios are normally associated with value stocks and stocks that have fallen out of favor with investors. We find that there is heavier shorting demand for these stocks. *Institutional Ownership* is the quarterly percentage of shares owned by institutions, and *IO*

Concentration is the Herfindahl index of institutional ownership. Given that institutions are the suppliers of securities for lending purposes and are more likely to own large, liquid stocks, we anticipate a positive coefficient, and that is what we observe. As in Aggarwal, Saffi, and Sturgess, we expect shorting demand to be higher when institutional ownership is more dispersed. We confirm this relation as the coefficient for *IO Concentration* is negative, although it becomes insignificant after controlling for governance.

The coefficient of our main variable of interest, *Proxy Record Date*, located in regression (1) (column 1), indicates that the percentage of shares loaned goes up on the proxy record date, which is consistent with the findings of Christoffersen et al. (2007). The addition of *Governance Index* to the model, located in regression (2) (column 2), does not alter the sign of *Proxy Record Date* and its coefficient remains statistically significant at the 10% level. The addition of *Governance Index* also brings *Size*, the natural log of the firm's market value, into the model with a positive coefficient and increases the model's R^2 . The coefficient of *Governance Index* is negative, indicating that firms with better governance have a lower percentage of shares loaned. This coefficient is intuitive given that well-governed firms are less likely to be shorted. *Dividend Record Date* is introduced to the model in regression (3) (column 3). The positive coefficient indicates that the percentage of shares loaned increases on the dividend record date. The major change that the addition of *Dividend Record Date* has on the coefficients of the other variables in the model is that it drives out the statistical significance of *Proxy Record Date*. This change is notable as it confirms our conversations with practitioners in the securities lending industry and is contrary to the findings of Christoffersen et al. Although our study, as well as others, finds that the proxy record date affects the equity lending market at a 10% significance level, this effect disappears when dividend record date is taken into consideration. Restated, with the inclusion of the dividend record date, we now find that the influence of the proxy record date is not significantly different from zero.

We estimate our model including both *Governance Index* and *Dividend Record Date* for years 2005–2008 separately. In untabulated results, the coefficient for *Proxy Record Date* is not significant in any year and the coefficient for *Dividend Record Date* is significant and positive in all years except 2008, when it is not significantly different from zero.

We run a similar analysis using *Loan Fee % (share weighted)* as the dependent variable. Table 4 presents the results of this analysis. As before, column 1 contains the regression results omitting both *Dividend Record Date* and *Governance Index*. Unlike with *Percentage of Shares Loaned*, *Proxy Record Date* is significant and positive at the 5% level in all three specifications. Christoffersen et al. (2007) do not find this relation and thus conclude that the average proxy vote is costless. Our expectations for the coefficients of control variables for loan fees are similar to our expectations in the shares on loan regressions; if there is higher shorting demand, we believe there will be higher loan fees. In other words, the coefficients should be of the same sign as those in Table 3. This turns out not to be the case for four of our controls: *Size*, *Price < \$5*, *Book/Market*, and *Institutional Ownership*. The stocks of larger companies are associated with lower loan fees, which is intuitive given the higher probable supply of shares and probable higher institutional ownership, which also has a negative coefficient. The coefficient of *Price < \$5*, low-priced stocks, is not significantly different from zero in the regression

TABLE 4. Dependent Variable Is Loan Fee.

	(1) Coeff. (t-stat)	(2) Coeff. (t-stat)	(3) Coeff. (t-stat)
Constant	1.985*** (62.09)	2.217*** (56.87)	2.217*** (56.86)
<i>Proxy Record Date</i>	0.024** (2.57)	0.022** (2.26)	0.022** (2.23)
<i>Dividend Record Date</i>			0.008 (0.42)
<i>Size</i>	-0.059*** (39.54)	-0.068*** (36.29)	-0.068*** (36.29)
<i>Price < \$5</i>	0.625*** (47.13)	0.716*** (48.91)	0.716*** (48.91)
<i>Turnover</i>	21.545*** (51.66)	21.175*** (44.59)	21.176*** (44.60)
<i>Spread</i>	-11.430*** (31.34)	-8.789*** (23.17)	-8.790*** (23.17)
<i>Prior-Week Return</i>	-0.016 (0.26)	-0.079 (1.16)	-0.079 (1.16)
<i>Book/Market</i>	-0.002*** (2.88)	-0.215*** (19.94)	-0.215*** (19.94)
<i>Institutional Ownership</i>	-0.984*** (70.23)	-0.937*** (58.84)	-0.937*** (58.82)
<i>IO Concentration</i>	0.288*** (8.00)	-0.015 (0.37)	-0.015 (0.37)
<i>Governance Index</i>		0.035 (0.97)	0.035 (0.97)
Observations	328,496	265,114	265,114
R ²	0.133	0.153	0.153

Note: The sample is all proxy record dates and the 20 surrounding trading days during 2005–2008. In each regression, the dependent variable is *Loan Fee % (share weighted)*, defined as the average loan fee (fed funds rate – rebate rate) for all open stock loans for a particular firm, weighted by shares in the loan. *Proxy Record Date* is a dummy equal to 1 on the record date. *Dividend Record Date* is a dummy equal to 1 on the record date. *Size* is the natural log of the firm’s market capitalization. *Price < \$5* is a dummy equal to 1 if the stock trades for less than \$5. *Turnover* is daily volume divided by shares outstanding. *Spread* is the bid–ask spread. *Prior-Week Return* is the cumulative prior five-day return. *Book/Market* is the annual book–market ratio. *Institutional Ownership* is the quarterly percentage of shares owned by institutions. *IO Concentration* is the Herfindahl index of institutional ownership. *Governance Index* is the governance index from Aggarwal et al. (2010). 2006, 2007, and 2008 are dummies equal to 1 if the loan was open in those years (suppressed in the table). Absolute value of *t*-statistics are in parentheses and are calculated using Newey–West standard errors.

***Significant at the 1% level.

**Significant at the 5% level.

with *Percentage of Shares Loaned*, but is positive in the regression with loan fees. This coefficient also is intuitive given the probable lower supply of loanable shares. Finally, high book–market stocks have lower loan fees, which is contrary to our expectation.

As in the regression with *Percentage of Shares Loaned*, *Loan Fee % (share weighted)* is significantly related to *Proxy Record Date*, even when *Governance Index* is introduced to the equation (column 2). Although the influence of better corporate governance is negative for the percentage of shares on loan, *Governance Index* does not significantly influence *Loan Fee* in our analysis. However, the introduction of *Governance Index* causes *IO Concentration* to lose statistical significance. The

TABLE 5A. Dependent Variable Is Percentage of Shares Loaned: Nonspecial Stocks.

	(1)	(2)	(3)
	Coeff. (t-stat)	Coeff. (t-stat)	Coeff. (t-stat)
Constant	-1.431*** (8.12)	-2.901*** (13.16)	-2.879*** (13.07)
<i>Proxy Record Date</i>	0.092** (2.02)	0.082* (1.84)	0.065 (1.45)
<i>Dividend Record Date</i>			0.596*** (5.52)
<i>Size</i>	0.036*** (3.98)	0.110*** (10.00)	0.109*** (9.90)
<i>Price < \$5</i>	-0.221*** (7.98)	-0.283*** (9.77)	-0.279*** (9.62)
<i>Turnover</i>	68.147*** (36.80)	86.476*** (45.11)	86.521*** (45.14)
<i>Spread</i>	-1.801* (1.77)	-5.294*** (5.51)	-5.302*** (5.52)
<i>Prior-Week Return</i>	-0.508*** (2.45)	-0.154 (0.66)	-0.155 (0.67)
<i>Book/Market</i>	0.039*** (3.32)	0.407*** (9.66)	0.405*** (9.62)
<i>Institutional Ownership</i>	5.283*** (97.63)	5.541*** (90.05)	5.547*** (90.15)
<i>IO Concentration</i>	-1.415*** (12.40)	0.195** (2.34)	0.197** (2.37)
<i>Governance Index</i>		-1.060*** (6.92)	-1.067*** (6.97)
Observations	289,094	236, 654	236,654
R ²	0.132	0.172	0.172

Note: The sample is all proxy record dates and the 20 surrounding trading days during 2005–2008 for nonspecial stocks (i.e., loan fees average less than 100 basis points during the 21-day event window). In each regression, the dependent variable is *Percentage of Shares Loaned*, defined as the number of shares loaned divided by the number of shares outstanding, and multiplied by 100 (i.e., in percentage terms). *Proxy Record Date* is a dummy equal to 1 on the record date. *Dividend Record Date* is a dummy equal to 1 on the record date. *Size* is the natural log of the firm's market capitalization. *Price < \$5* is a dummy equal to 1 if the stock trades for less than \$5. *Turnover* is daily volume divided by shares outstanding. *Spread* is the bid–ask spread. *Prior-Week Return* is the cumulative prior five-day return. *Book/Market* is the annual book–market ratio. *Institutional Ownership* is the quarterly percentage of shares owned by institutions. *IO Concentration* is the Herfindahl index of institutional ownership. *Governance Index* is the governance index from Aggarwal et al. (2010). 2006, 2007, and 2008 are dummies equal to 1 if the loan was open in those years (suppressed in the table). Absolute value of *t*-statistics are in parentheses and are calculated using Newey–West standard errors.

***Significant at the 1% level.

**Significant at the 5% level.

*Significant at the 10% level.

introduction of *Dividend Record Date* (column 3) does little to the results of the equation estimation. Although the effect of the 2,936 dividend record date observations on proportion of shares loaned is sufficient to register statistical significance, the spike in loan fees around dividend record date (visible in Figure IV) is not. (Looking ahead to Table 6, we find that the effect is statistically significant for stocks that pay above-median dividends.)

For robustness, we repeat the *Percentage Shares Loaned* analysis, separating the stocks into special stocks (stocks that are expensive to borrow) and all other stocks.

TABLE 5B. Dependent Variable Is Percentage of Shares Loaned: Special Stocks.

	(1) Coeff. (<i>t</i> -stat)	(2) Coeff. (<i>t</i> -stat)	(3) Coeff. (<i>t</i> -stat)
Constant	-2.029** (1.97)	-2.780** (2.19)	-2.780*** (2.18)
<i>Proxy Record Date</i>	0.009 (0.07)	0.053 (0.40)	0.046 (0.35)
<i>Dividend Record Date</i>			0.624 (1.04)
<i>Size</i>	0.118*** (2.37)	0.106* (1.88)	0.105* (1.86)
<i>Price < \$5</i>	0.103 (1.07)	-0.227* (1.91)	-0.224* (1.88)
<i>Turnover</i>	45.814*** (13.09)	61.028*** (13.65)	61.078*** (13.66)
<i>Spread</i>	7.217** (2.53)	-3.838* (1.75)	-3.882* (1.77)
<i>Prior-Week Return</i>	-1.348*** (2.82)	-1.543*** (3.31)	-1.544*** (3.32)
<i>Book/Market</i>	-0.119*** (20.71)	0.235** (2.24)	0.234** (2.23)
<i>Institutional Ownership</i>	9.624*** (48.05)	9.840*** (51.23)	9.842*** (51.22)
<i>IO Concentration</i>	-2.707*** (14.66)	-1.482*** (7.13)	-1.483*** (7.13)
<i>Governance Index</i>		1.136** (2.04)	1.135** (2.04)
Observations	42,412	30,824	30,824
R ²	0.236	0.328	0.328

Note: The sample is all proxy record dates and the 20 surrounding trading days during 2005–2008 for special stocks (i.e., loan fees average in excess of 100 basis points during the 21-day event window). In each regression, the dependent variable is *Percentage of Shares Loaned*, defined as the number of shares loaned divided by the number of shares outstanding, and multiplied by 100 (i.e., in percentage terms). *Proxy Record Date* is a dummy equal to 1 on the record date. *Dividend Record Date* is a dummy equal to 1 on the record date. *Size* is the natural log of the firm's market capitalization. *Price < \$5* is a dummy equal to 1 if the stock trades for less than \$5. *Turnover* is daily volume divided by shares outstanding. *Spread* is the bid–ask spread. *Prior-Week Return* is the cumulative prior five-day return. *Book/Market* is the annual book–market ratio. *Institutional Ownership* is the quarterly percentage of shares owned by institutions. *IO Concentration* is the Herfindahl index of institutional ownership. *Governance Index* is the governance index from Aggarwal et al. (2010). 2006, 2007, and 2008 are dummies equal to 1 if the loan was open in those years (suppressed in the table). Absolute value of *t*-statistics are in parentheses and are calculated using Newey–West standard errors.

***Significant at the 1% level.

**Significant at the 5% level.

*Significant at the 10% level.

Christoffersen et al. (2007) find that special stocks are loaned less, perhaps because of their large loan fees. We want to ensure that our results are not being driven by overly expensive stocks (in terms of lending). The results of these regressions are in Tables 5A and 5B. We find that the estimates from the nonspecial stocks (Table 5B) are similar to the all stocks analysis. The main difference in Table 5B and Table 3 is that lower priced stocks, those with *Price < \$5*, have a lower percentage of shares on loan. The estimates from the regression of the special stocks are located in Table 5B. It appears that the

TABLE 6A. Dependent Variable Is Percentage of Shares Loaned: Dividend Quartiles.

	No Divs Coeff. (t-stat)	DQ1 Coeff. (t-stat)	DQ2 Coeff. (t-stat)	DQ3 Coeff. (t-stat)	DQ4 Coeff. (t-stat)
Constant	-2.952*** (7.03)	-8.894*** (9.41)	-0.869* (1.94)	3.250*** (5.41)	-0.595 (1.26)
<i>Proxy Record Date</i>	0.075 (1.19)	0.067 (0.49)	0.109 (1.00)	0.049 (0.51)	0.008 (0.07)
<i>Dividend Record Date</i>		0.389 (1.36)	0.711*** (2.96)	0.580*** (3.40)	0.417** (2.32)
<i>Size</i>	0.134*** (6.53)	0.288*** (6.51)	-0.031 (1.28)	-0.121*** (4.58)	0.061** (2.23)
<i>Price < \$5</i>	-0.004 (0.10)	0.876*** (3.39)	-0.679*** (4.73)	-1.503*** (5.66)	0.450* (1.79)
<i>Turnover</i>	71.577*** (37.44)	158.496*** (18.00)	108.569*** (18.09)	139.424*** (19.53)	122.868*** (12.61)
<i>Spread</i>	-4.500*** (3.98)	-10.655*** (2.69)	-14.744*** (8.60)	-19.119*** (13.18)	-17.142** (7.26)
<i>Prior-Week Return</i>	-1.065*** (4.22)	1.263 (1.42)	-0.427 (0.74)	2.065*** (3.55)	1.428* (1.78)
<i>Book/Market</i>	-0.263*** (5.73)	3.456*** (13.88)	0.754*** (10.50)	0.797*** (9.76)	-0.028 (0.32)
<i>Institutional Ownership</i>	5.982*** (74.51)	5.018*** (26.72)	5.544*** (34.14)	4.997*** (23.68)	3.774*** (23.82)
<i>IO Concentration</i>	0.682*** (7.49)	-0.746*** (2.89)	0.121 (0.60)	-1.192*** (6.30)	-4.062*** (18.32)
<i>Governance Index</i>	-0.981*** (4.53)	-0.197 (0.39)	-0.080 (0.20)	-3.216*** (7.27)	-0.741* (1.87)
Observations	138,404	27,692	34,341	34,050	32,991
R ²	0.171	0.273	0.221	0.239	0.132

Note: The following displays specification 3 from Table 3 broken out by quartiles based on total ordinary dividends paid from 2005 to 2008 (DQ1 = low, DQ4 = high). The sample is all proxy record dates and the 20 surrounding trading days during 2005–2008 for special stocks (i.e., loan fees in excess of 100 basis points). In each regression, the dependent variable is *Percentage of Shares Loaned*, defined as the number of shares loaned divided by the number of shares outstanding, and multiplied by 100 (i.e., in percentage terms). *Proxy Record Date* is a dummy equal to 1 on the record date. *Dividend Record Date* is a dummy equal to 1 on the record date. *Size* is the natural log of the firm's market capitalization. *Price < \$5* is a dummy equal to 1 if the stock trades for less than \$5. *Turnover* is daily volume divided by shares outstanding. *Spread* is the bid–ask spread. *Prior-Week Return* is the cumulative prior five-day return. *Book/Market* is the annual book–market ratio. *Institutional Ownership* is the quarterly percentage of shares owned by institutions. *IO Concentration* is the Herfindahl index of institutional ownership. *Governance Index* is the governance index from Aggarwal et al. (2010). *2006*, *2007*, and *2008* are dummies equal to 1 if the loan was open in those years (suppressed in the table). Absolute value of *t*-statistics are in parentheses and are calculated using Newey–West standard errors.

**Significant at the 1% level.

**Significant at the 5% level.

*Significant at the 10% level.

percentage of special shares on loan is not related to *Proxy Record Date* or *Dividend Record Date*. It should be noted that in the case of *Dividend Record Date*, the insignificant coefficient could be a power issue because of low sample size; the magnitude of the coefficient is actually larger than in the all stock sample. We also note that firms with better corporate governance are more likely to have more shares on loan while the opposite is the case with nonspecial firms.

TABLE 6B. Dependent Variable Is Loan Fee: Dividend Quartiles.

	No Divs Coeff. (t-stat)	DQ1 Coeff. (t-stat)	DQ2 Coeff. (t-stat)	DQ3 Coeff. (t-stat)	DQ4 Coeff. (t-stat)
Constant	2.270*** (28.39)	2.647*** (20.15)	1.238*** (11.86)	1.254*** (15.29)	1.384*** (16.82)
<i>Proxy Record Date</i>	0.021 (1.32)	0.017 (0.64)	0.031 (1.35)	0.016 (0.84)	0.016 (0.86)
<i>Dividend Record Date</i>		0.013 (0.32)	-0.023 (0.75)	0.115*** (2.98)	0.078** (2.22)
<i>Size</i>	-0.048*** (11.49)	-0.100*** (15.43)	-0.058*** (12.69)	-0.043*** (11.31)	-0.040*** (13.35)
<i>Price < \$5</i>	0.599*** (35.69)	0.226*** (4.98)	0.612*** (6.34)	-0.250*** (3.98)	0.884*** (6.03)
<i>Turnover</i>	21.034*** (34.64)	22.891*** (15.34)	18.387*** (12.02)	6.094*** (8.16)	13.388*** (9.26)
<i>Spread</i>	-10.151*** (18.05)	-5.390*** (5.80)	-5.278*** (5.71)	-5.725*** (7.82)	-6.377*** (6.06)
<i>Prior-Week Return</i>	-0.138 (1.58)	0.125 (0.66)	-0.005 (0.02)	0.150 (0.96)	-0.574*** (2.51)
<i>Book/Market</i>	-0.247*** (14.82)	-0.188*** (7.05)	0.017 (0.57)	0.029 (1.39)	-0.126*** (6.67)
<i>Institutional Ownership</i>	-1.408*** (49.76)	-0.555*** (13.53)	-0.522*** (13.13)	-0.496*** (14.71)	-0.505*** (13.94)
<i>IO Concentration</i>	-0.207*** (3.36)	-0.297*** (3.96)	0.113 (0.97)	0.375*** (4.11)	0.346*** (5.01)
<i>Governance Index</i>	-0.117*** (2.06)	0.118 (1.03)	0.559*** (6.24)	0.111 (1.56)	-0.017 (0.24)
Observations	137,094	27,302	34,015	33,802	32,901
R ²	0.179	0.098	0.055	0.055	0.051

Note: The following displays specification 3 from Table 4 broken out by quartiles based on total ordinary dividends paid from 2005 to 2008 (DQ1 = low, DQ4 = high). The sample is all proxy record dates and the 20 surrounding trading days during 2005–2008 for special stocks (i.e., loan fees in excess of 100 basis points). In each regression, the dependent variable is *Percentage of Shares Loaned*, defined as the number of shares loaned divided by the number of shares outstanding, and multiplied by 100 (i.e., in percentage terms). *Proxy Record Date* is a dummy equal to 1 on the record date. *Dividend Record Date* is a dummy equal to 1 on the record date. *Size* is the natural log of the firm's market capitalization. *Price < \$5* is a dummy equal to 1 if the stock trades for less than \$5. *Turnover* is daily volume divided by shares outstanding. *Spread* is the bid–ask spread. *Prior-Week Return* is the cumulative prior five-day return. *Book/Market* is the annual book–market ratio. *Institutional Ownership* is the quarterly percentage of shares owned by institutions. *IO Concentration* is the Herfindahl index of institutional ownership. *Governance Index* is the governance index from Aggarwal et al. (2010). *2006*, *2007*, and *2008* are dummies equal to 1 if the loan was open in those years (suppressed in the table). Absolute value of *t*-statistics are in parentheses and are calculated using Newey–West standard errors.

***Significant at the 1% level.

**Significant at the 5% level.

As *Dividend Record Date* appears to drive out *Proxy Record Date* in the full sample, and we know that more than 50% of the stocks in our stock lending data do not pay dividends, we want to investigate further the role of dividend record date. Hence, we first divide our sample into stocks that pay dividends and those that do not pay dividends. We further divide our dividend-paying stocks into quartiles with the stocks in DQ1 paying the lowest dividend and those in DQ4 paying the highest. The results of these regressions are located in Table 6A.

With only a couple of exceptions, the determinants for *Percentage of Shares Loaned* for stocks that pay no dividend is the same as those for all stocks. A notable exception is that the coefficient for *Proxy Record Date* is not distinguishable from zero. We believe the insignificant coefficient for *Proxy Record Date* for non-dividend-paying stocks further emphasizes that it is dividend-paying stocks that drive the increase in the proportion of stocks on loan on the date of the proxy.

We estimate the regression model including *Proxy Record Date*, *Dividend Record Date*, and *Governance Index* for the four quartiles of dividend-paying stocks. The coefficient for *Proxy Record Date* is not statistically significant for any dividend quartile as was the case for all stocks when *Dividend Record Date* was added to the equation. With the exception of the lowest dividend-paying quartile, *Percentage of Shares Loaned* goes up on the dividend record date. Not all coefficients are of the same sign for the variables across the quartiles. Better corporate governance (*Prior-Week Return*) does not affect the percentage of shares on loan for the bottom half of dividend-paying stocks, but reduces (increases) the percentage of shares on loan for the higher dividend-paying half. Several variables influence the percentage of shares on loan in the same direction across all quartiles. These variables include *Turnover*, *Spread*, *Institutional Ownership*, and *Institutional Ownership Concentration*.

We run a similar analysis using *Loan Fee % (share weighted)* as the dependent variable. Table 6B has the results of this analysis. Column 1 contains the coefficients for the stocks that do not pay dividends. Again, *Proxy Record Date* does not significantly affect the loan fee. Most of the variables that affect the loan fee for all stocks also affect the loan fee in the same direction for stocks that do not pay dividends. A notable exception is that better corporate governance results in a lower loan fee for stocks that do not pay dividends, while it does not significantly affect the loan fee for all stocks.

Columns 2 through 5 contain the regression results for the dividend quartiles. The coefficients for *Dividend Record Date* are positive for DQ3 and DQ4, meaning that loan fees increase on the dividend record date for the higher dividend-paying stocks. These positive coefficients are noteworthy because *Dividend Record Date* is not a significant factor influencing loan fee in the all stock sample. With the exception of *Size*, *Turnover*, *Spread*, and *Institutional Ownership*, the determinants are of mixed signs across quartiles. We can conclude from our analysis that loan fees for the highest dividend-paying stocks are not significantly affected by corporate governance and are lower for larger firms and firms with greater institutional ownership. Higher dividend-paying stocks have higher loan fees when turnover is higher, with higher institutional ownership concentration and on the dividend record date. The loan fees on lower dividend-paying stocks increase for lower priced stocks and stocks with high turnover.

IV. Conclusion

Other researchers (Hu and Black 2006; Christoffersen et al., 2007) find that the security lending market is used to capture corporate proxy votes. We examine the securities lending market around proxy record dates to determine whether there is evidence of potential widespread proxy abuse. Initially, we verify that the percentage of shares loaned

weakly increases on the proxy record date from a statistical standpoint. However, when we control for dividend record date, the proxy record date no longer influences the proportion of shares on loan. We find that the proxy record date weakly influences loan fees (however, we question the economic significance of roughly 2 basis points). Given that our sample is centered on the proxy date, rather than on the dividend record date, the dividend record date does not register as a significant influence on loan fees for all stocks. However, the dividend record date exerts a positive influence on loan fees for higher dividend-paying stocks, even when corporate governance is taken into account. We believe our results confirm our conversations with practitioners in the securities lending industry and are contrary to the findings of Christoffersen et al. (2007). Our results show that the effect of the proxy record date on stock lending disappears when the dividend record date is taken into consideration.

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