Does Proxy Voting Affect the Supply and/or Demand for Securities Lending?

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Abstract

We use a comprehensive proprietary data set consisting of shares available to lend (supply), shares borrowed (demand), and loan fee to study the securities lending market in the United States. We provide a better understanding of the securities lending market; examine the role of institutional investors in the voting process by analyzing the supply of lendable shares around the time of a proxy vote; and to address some of the issues related to empty voting we examine the changes in borrowing demand around the time of a proxy vote. On average, 19.57 percent of a firm's market capitalization is available for lending, 3.3 percent is actually borrowed, and the annualized loan fee is 42 basis points. During our sample period, 2005-2009, there are 105,143 proxy agenda items. At the time of a proxy vote, there is a significant reduction in the supply of shares available to lend because institutions restrict or recall their loaned shares prior to a vote. The reduction in the supply of lendable shares is most pronounced in cases associated with significant events such as mergers, and with agenda items for which ISS recommends voting AGAINST the proposal. Our findings are consistent with institutional investors responsibly recalling shares, hence reducing supply ahead of material proposals. Most of the increase in loan fee around the time of a vote is associated with the reduction in supply which is related to the desire of institutions to vote their shares. We find statistically significant evidence of increase in demand however this increase in demand is economically small relative to the reduction in supply. In contrast, we find that the large increase in loan fee around the time of the ex-dividend date is driven by an increase in borrowing demand for cash flow reasons, with no change in the supply of lendable shares.

JEL: G32; G34; G38
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I. Introduction

Securities lending activity has grown tremendously, peaking in 2007 with a total value of securities on loan estimated at $5 trillion (Lambert 2009). Securities lending refers to a transaction in which the beneficial owner of the securities, normally a large institutional investor, such as a pension fund or mutual fund, agrees to lend its securities to a borrower, such as hedge funds; in exchange for collateral consisting of cash and government securities. But this market is not transparent and little is known about the lending and borrowing side of the market. Most institutions have a securities lending program and consider it to be an important source of revenue with estimates of $800 million in annual revenue for pension funds alone. At the same time, institutions have a fiduciary responsibility to vote their shares. Therefore, they must decide when to restrict lending and even recall shares already on loan.

To understand both the securities lending market and the implications of voting record date lending/borrowing for corporate governance, we use a comprehensive proprietary data set consisting of shares available to lend, shares that have actually been borrowed and are on loan, and the associated fee, for the period between January 2005 and December 2009. Our goal is first to shed light on the securities lending market and then to examine the relation between proxy voting and securities lending/borrowing.

We find evidence of a significant reduction in the supply of shares available to lend at the time of a proxy vote because institutions restrict and/or call back their loaned shares prior to a vote. Further, the reduction in the supply of lendable shares is most pronounced in cases associated with significant corporate events such as mergers, and with agenda items for which ISS recommends voting AGAINST. To address concerns related to empty voting, we also

examine the changes in borrowing demand around the time of a vote. The record date determines the ownership date for voting purposes. There is some evidence of increased demand around the time of the record date. However, the increase in demand is economically small compared to the sharp reduction in supply. Most of the increase in loan fee around the time of a vote is associated with reduced supply related to the desire of institutions to vote their shares. Our findings are consistent with institutions responsibly restricting and recalling shares, hence reducing supply ahead of material proposals. In contrast to the activity around voting record dates, we find that the large increase in loan fee around the time of the ex-dividend record date is driven by an increase in borrowing demand, with no change in the supply of lendable shares. During the financial crisis of 2008, lending supply, borrowing demand, and fee all declined, however the general pattern of reduced supply and increased fee continued to hold.

The issues we examine are particularly relevant for a period that has seen tremendous growth in hedge funds and increased emphasis on shareholder activism, and securities lending. The fiduciary responsibility of institutions has intensified, with increased focus on corporate governance during the last decade, and most recently the financial crisis, has given greater urgency to shareholder access. In a speech given by Securities and Exchange Commission (SEC) Chairman Schapiro in 2010, the chairman stated that there are more than 600 billion shares voted annually at more than 13,000 shareholder meetings every year. Since voting provides an important mechanism for shareholders to affect firm-level corporate governance and policies, because equity lending transfers voting rights to the borrower it has important ramifications for corporate governance. The increased interest in proxy voting and securities lending has resulted in fund boards now paying attention not only to the fee received from a securities lending program, but also whether the securities are being loaned to “responsible” borrowers.

Funds are screening companies with upcoming shareholder meetings where a vote may be important. According to an ISS survey of funds, 37.9% of the respondents stated that a formal policy on securities lending is part of their proxy voting policy.[1] On the borrowing side, "empty voting" or voting by shareholders in excess of their economic interest has raised concerns (see Hu and Black, 2006 and 2007). Hu and Black (2008) discuss strategies, such as borrowing securities, and use of derivatives that can be used to decouple votes from shares. When investors borrow shares by the record date, there is concern that some activist investors, such as hedge funds, borrow securities primarily to obtain proxy votes.

In 2007, the Wall Street Journal (January 26, 2007, p. A1) quoted the chairman of the SEC as saying that empty voting "is already a serious issue and it is showing all signs of growing" and "is almost certainly going to force regulatory response." Concerns over the issue are clearly apparent in the SEC's concept release of July 2010 on proxy voting. Empty voting has been an even bigger issue in Europe than even the United States. Regulators in several countries including UK, Hong Kong, Switzerland, Italy and Australia have already introduced new regulations and/or disclosure requirements with respect to securities lending. The Hedge Fund Working Group (2008) issued a set of standards; the group addressed several issues including proxy voting and recommended that "A hedge fund manager should not borrow stock in order to vote."

Hu and Black (2008) provide examples of empty voting with several involving securities borrowing. They strongly argue that regulation and additional disclosure is necessary to curb such activities. But, Brav and Mathews (2010) develop a theoretical model and show that the ability to separate votes from economic ownership can increase overall efficiency. This view is

[1] See http://www.riskmetrics.com/press/articles/040307boardiq.html

supported by Christoffersen, Geczy, Musto, and Reed (2007) and Kalay and Pant (2008). Concerns over empty voting in various forms have continued to grow in the last few years. However, there is little in the way of empirical evidence to determine whether there is a significant problem that needs new regulation. Due to data limitations, studies have not been able to address the issues. We fill the gap by conducting a comprehensive analysis of the securities lending market around the time of a proxy vote.

Our paper is related to the studies focusing on the governance role played by institutional investors. Gillan and Starks (2007) survey the evolution of institutional shareholder activism in the U.S. from the value effect of shareholder proposals to the influence on corporate events. Studies find that institutional investors affect CEO turnover (Parrino, Sias and Starks (2003)), antitakeover amendments (Brickley, Lease, and Smith (1988)), executive compensation (Hartzell and Starks (2003)), and mergers (Gaspar, Massa, and Matos (2005) and Chen, Harford and Li (2007)). In an analysis of 23 countries, Aggarwal, Erel, Ferreira and Matos (2010) find that changes in institutional ownership over time positively affect subsequent changes in firm-level governance, but the opposite is not true. Institutions from countries with strong shareholder protection play a crucial role in promoting governance improvements and firms are more likely to terminate poorly performing CEOs and exhibit improvements in valuation over time. Chung and Zhang (2009) find that the fraction of a firm's shares held by institutions increases with the quality of governance. Bushee, Carter, and Gerakos (2009) find evidence that ownership by governance-sensitive institutions in the U.S. is associated with future improvements in shareholder rights.

In a survey of institutional investors, McCahery, Sautner, and Starks (2010) find that corporate governance is important to institutional investors, and that many institutions are

willing to engage in shareholder activism. Recent papers, such as Brav, Jiang, Partnoy, and Thomas (2008), Clifford (2008), and Klein and Zur (2009) study activism by individual funds, such as pension funds or hedge funds. Gantchev (2010) finds that that the average activist campaign is estimated to cost $10.5 million with half the costs coming from proxy fights and less than 5% of all campaigns reach a proxy fight with proxy fights having a 67% success rate.

One of the few empirical studies to examine the relation between voting and fee is that of Christoffersen, Geczy, Musto, Reed (2007), however they only examine the demand side and do not have information on lending supply. They use data from one large lending agent during the one-year period 1998-1999. These authors do not find vote trading to occur in the spot market but find it to take place in the stock lending market. However they find no costs associated with vote lending and no mark-up over prevailing prices. We find positive costs associated with vote borrowing and interestingly the increase in fee is primarily driven by reduction in supply. Kaplan, Moskowitz and Sensoy (2010) conduct an experiment by introducing an exogenous supply shock to the loan supply of one money manager and find no adverse impact on stock prices. Asquith, Au, Covert and Pathak (2010) describe borrowing in the bond market by analyzing data from a lender for the period 2004-07. There are other studies that have examined the cost of borrowing stocks, such as, Jones and Lamont (2002), D'Avolio (2002), Geczy, Musto and Reed (2002), Ofek and Richardson (2002), and Edwards and Hanley (2010).

The paper proceeds as follows. Section 2 provides background on the proxy voting process, and the securities lending market. Section 3 describes the data on proxy voting, securities lending, and other firm-level corporate attributes. In Section 4, we present the results of our empirical findings. Section 5 concludes.

2. Background on Proxy Voting and Securities Lending

2.1 Proxy Voting

In the United States, state laws control the holding of annual meetings to elect directors and matters of corporate governance as discussed by Karmel (2010). However, federal securities laws control the solicitation of proxies. In light of changes in shareholder demographics, the structure of share holdings, technology, and the potential economic significance of each proxy vote, the SEC has reviewed the proxy infrastructure and issued a "proxy plumbing" concept release in July 2010. The concept release identified several issues, including over-voting and under-voting, which can result from a mismatch between the number of shares held versus the number of shares credited to a broker-dealer; proxy voting and securities lending; the need for investors to know proxy items before the record date so that they can decide whether to lend their shares or not. Further, the SEC also raised the issues of whether funds should report the number of shares cast, in addition to how they voted; whether "empty voting" where economic ownership is decoupled from voting rights needs a regulatory response; and the role of proxy advisory firms and conflicts of interest issues.[2]

In July 2009, the SEC approved changes to New York Stock Exchange Rule 452, hence since January 1, 2010, brokers can no longer vote uninstructed shares in uncontested director elections. In 2009, broker shares accounted for 19% of shareholder votes. The change empowers activists and institutional investors. The impact is less on large-cap firms that tend to have large institutional ownership and more on small and mid-cap firms that tend to have a larger proportion of retail investors.

[2] Concept Release on the U.S. Proxy System, Securities and Exchange Commission Release No. 34-62495.

In August 2010, the SEC passed a proxy access rule that gave shareholders the right to nominate directors on corporate ballots alongside the company's nominees.[3] Shareholders have been pushing for such a change since 1977. The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 requires national exchanges to amend rules to prohibit members from voting client's shares on issues related to compensation.

One of the issues raised by the SEC's 2010 Concept Release deals with the influence of proxy advisors on voting. Most institutional investors subscribe to one or more proxy advisors and some delegate voting authority to these advisors. Choi, Fisch, and Kahan (2008) examine the impact of proxy advisors on uncontestable director elections during 2005-06. They find that proxy advisors, instead of providing independent information, effectively aggregate information on factors considered important by investors. The authors conclude that their recommendations are less influential than perceived. Sometimes different proxy advisory firms provide opposing recommendations. In the high-profile proxy fight between Terra Industries Inc. and CF Industries Holdings, Inc, RiskMetrics supported dissident CF, while Glass Lewis and Co. supported Terra. RiskMetrics supported the dissident slate in 40% of contests, and Glass Lewis favored the dissident slate in only 20% of fights in which the recommendations were publicly available.[4]

There are a many rules and regulations that apply to the proxy process. To give shareholders sufficient time to make an informed voting decision, registrants must follow a timeline. SEC proxy Rule 14a-13 requires that a "Broker Search" be distributed to banks, brokers, and nominees and they compile a list of beneficial owners. This broker search is required to take place 20 business days prior to the record date for an annual meeting and ten

[3] Facilitating Shareholder Director Nominations, Securities and Exchange Commission Release No. 33-9136.
[4] https://www.sharkrepellent.net/request?an=dt.getPage&st=1&pg=/pub/rs_20100722.html&&RiskMetrics_and_Glass_Lewis_Proxy_Fight_Vote_Recommendations&rnd=701086

days for a special meeting. Most states (for example, California and Delaware) require the record date to be set at a maximum of 60 days and a minimum of ten days prior to the meeting; New York sets the maximum at 50 days. The record date determines the ownership date for voting purposes. As long as shares are not lent out on day 0, the owner can vote them. Preliminary proxy material must be filed with the SEC via EDGAR, 10 days before distributing definitive copies to shareholders. Proxy material must be mailed out 40 days before the meeting date.

Mutual funds typically have an oversight process, with board involvement, to monitor the funds' proxy voting process. The SEC's Rule 206(4)-6 requires funds to adopt and implement proxy voting policies and procedures, and that they make voting record available to clients. According to the SEC, "This disclosure enables fund shareholders to monitor their funds' involvement in the governance activities of portfolio companies." In 2003, the SEC started requiring mutual funds to disclose proxy voting record by filing Form N-PX.

2.2 Securities Lending

Most large institutional investors have a securities lending program and consider securities lending as a key source of revenue. Major custodial banks now offer lending services. It is estimated that securities lending reaped $8 billion to $10 billion annually in fees for Wall Street.[5]

The owner/lender is able to earn a spread by investing the collateral in low-risk short-term securities. In a normal U.S. loan, the collateral is 102% on domestic securities and 105% for international securities. Institutional investors suffered large losses in their securities lending program in 2008 that led to law suits against big custodial banks. The allegation against the custodial banks was that they did not invest the collateral in safe, plain-vanilla securities, hence

[5] http://www.forbes.com/2007/09/25/retail-investors-securities-biz-cx_lm_0925brokerage.html

resulting in losses.[6] Some smaller institutional investors stopped their securities lending program in 2008.

Market participants without having any economic ownership in a firm can obtain voting rights by borrowing shares. As is evident from the SEC's concept release of July 2010, questions have been raised whether securities lending has contributed to proxy abuse. Most securities lending involves shares borrowed from pension funds, mutual funds and other large institutional investors. These institutions tend to have proxy voting guidelines that will often contain policies on securities lending. Although shares are referred to as being "on loan", the lender transfers ownership and voting rights to the borrower. Shares may be borrowed for a variety of reasons, including covering a short position or for arbitrage strategies such as, convertible bond arbitrage and merger arbitrage. It has also been presumed that activist investors borrow shares for the sole purpose of obtaining voting rights to exert influence or gain control of a company without corresponding economic ownership in the company.

Institutions have started to include policies on securities lending in their proxy guidelines. They can still combine good governance practices on voting with securities lending. These policies vary considerably, with some funds requiring a total recall of shares, while others weigh the lost revenue against the benefits of voting on a case-by-case basis. Below, we provide some examples are provided below from funds' proxy voting guidelines.

Putnam Funds

"The funds' have requested that their securities lending agent recall each domestic issuer's voting securities that are on loan, in advance of the record date for the issuer's shareholder meetings, so that the funds may vote at the meetings."[7]

TIAA-CREF

[6] http://www.pionline.com/article/20081013/PRINTSUB/310139968
[7] See https://content.putnam.com/shared/pdf/proxy_voting_guidelines.pdf

"Even after we lend the securities of a portfolio company, we continue to monitor whether income from lending fees is of greater value than the voting rights that have passed to the borrower. Using the factors set forth in our policy, we conduct an analysis of the relative value of lending fees versus voting rights in any given situation. We will recall shares when we believe the exercise of voting rights may be necessary to maximize the long-term value of our investments despite the loss of lending fee revenue."[8]

State Board of Administration of Florida (SBA)

"Circumstances that lead the SBA to recall shares include, but are not limited to, occasions when there are significant voting items on the ballot such as mergers or proxy contests or instances when the SBA has actively pursued coordinated efforts to reform the company's governance practices, such as submission of shareholder proposals or conducting a detailed engagement. In each case, the direct monetary impact of recalled shares will be considered and weighed against the discernable benefits of recalling shares to exercise voting rights. The SBA recognizes that it may not be possible to determine, prior to a record date, whether or not shares warrant recall."[9]

Fund groups such as Vanguard and Fidelity do not have any specific discussion of policies on recalling shares in their proxy guidelines. California Public Employees' Retirement System (CalPERS) has a two-step list. A list of about 30 securities on the "Focus" list is completely restricted from lending because CalPERS takes an active interest in these securities and always wants the shares available to vote. For the second list of 300 securities, which has the largest market value of CalPERS position, CalPERS wants ensure that the securities are returned prior to a proxy vote.[10] The SEC requires funds to recall shares for "material" events but has not defined materiality. In the ISS survey, 92.3% of the respondents indicated that mergers and acquisitions were the most important reason to recall shares. Hu and Black (2008) discuss the case of Fidelity and Morgan Stanley, who together held 10% shares of Telecom Italia and led a campaign against a takeover of Pirelli. However, they were only able to vote 1% of the votes because the remaining shares were lent out and could not be called in time for the vote. The Pirelli bid was approved.

[8] See http://www.tiaa-cref.org/ucm/groups/content/@ap_ucm_p_tcp/documents/document/tiaa01007871.pdf
[9] See http://www.sbafla.com/fsb/LinkClick.aspx?fileticket=mt0icmFCYMk%3d&tabid=378
[10] See http://www.securitiestechnologymonitor.com/issues/19_31/21468-1.html?zkPrintable=true

As mentioned in SBA's guidelines above, one of the challenges to recalling shares to vote is that shareholders typically do not receive the proxy material until after the record date. However, in order to vote, they must recall the shares by the record date. Hedge funds have argued that they do not borrow shares simply for voting purposes because they do not even know about the items on the proxy ballot as of the record date. Listed companies on the New York Stock Exchange are required to provide a notice of record and shareholder meeting dates at least ten prior to the record date. The SEC is considering whether this information should be disseminated to the general public.

3. Data

In this section, we describe the securities lending, proxy voting, and other firm-level data used in this study.

3.1 Proxy Voting Descriptive Statistics

We obtain firm-level voting records for each proposal from RiskMetrics/ISS for Russell 3000 companies for the period 2005-2009. There is information on each agenda item on the proxy ballot for each firm. We classify the proposals into eight categories: operational, board, anti-takeover, mergers and restructuring, state of incorporation, capital structure, executive and director compensation, and social responsibility.

Table 1 shows that there are a total of 105,143 agenda items on 14,477 proxies during the sample period. Of these proposals, 101,726 of these proposals are sponsored by management and 3,417 are sponsored by shareholders. The number of agenda items on proxies has increased over time; the largest number recorded so far is 23,119 proposals in 2009. There is evidence of an increase in shareholder activism with the proportion of

shareholder proposals increasing over time, except 2009. More than half of all proposals fall in the board category (80,729), followed by operational (12,860), executive and director compensation (8,110), capital structure (1,348), mergers (393), anti-takeover (560), social issues (997) and proxy (17). Shareholder proposals account for more than half the proposals in the categories of anti-takeover, proxy, and social issues. Shareholders sponsor 0.4% of operational, 1.58% of board, 2.08% of capital structure, 7.12% of mergers, 8.95% of compensation, 48.75% of anti-takeover, 70.59% of proxy, and 100% of social proposals. 97.28% of management proposals and 22.44% of shareholder proposals pass.

In addition to information about the outcome of the vote, ISS also includes a a recommendation on each agenda item on the proxy ballot. Every year ISS Governance Services makes its proxy voting guidelines available. ISS recommends a "For" vote in the case of 87.90% of management proposals and "Against" in 2.78% cases. The recommendation is FOR in 59.36% of shareholder proposals and AGAINST in 33.15% cases.

3.2 Securities Lending Descriptive Statistics

For the most part, understanding of the securities lending market has been limited partly due to the lack of transparency in this fragmented market. We provide a comprehensive analysis of this market that has experienced tremendous growth and then declined because of the financial crisis. We obtain from Data Explorers Ltd. a proprietary data set of equity lending supply, shares actually borrowed and on loan, and corresponding fee for the period January 2005 to December 2009. Data Explorers collects this data from large custodians and prime brokers in the securities lending industry, and provides comprehensive coverage of equity lending activity available to market participants. The information is currently collected daily from 125 custodians

and 32 prime brokers. As of December 2009, there was $1.55 trillion in stocks available to lend, out of which $113 billion was actually lent out and would be considered as being on loan.[11] Stock loans can used for a many different purposes, including short selling, arbitrage strategies, such as dividend tax-arbitrage strategies (see Christoffersen et al. (2005) and Thornock (2010)), and possibly for empty voting.

The main dependent variables in our study are equity lending supply (*SUPPLY*); borrowing demand, measured by amount on loan (*ON LOAN*); utilization rate measured as demand divided by supply (*UTILIZATION*); and annualized loan fee (*FEE*). Equity supply postings show the dollar value of shares available for borrowing on a given day. We define lending supply as the dollar value of supply relative to a firm's market capitalization, which is equivalent to the fraction of shares outstanding available to borrow. Similarly, we define on loan quantity as the dollar value of shares on loan on a given day relative to market capitalization. Loan fee is defined as the difference between the risk-free interest rate and the rebate rate, and is expressed in basis points (bps) per annum. The rebate rate is the portion of the interest rate on the collateral that the borrower receives back. We use the effective Federal Funds rate as our proxy for the risk-free rate. In fixed contract lending, it is possible for the fee to be negative because the rebate is fixed in advance. If the rebate is larger than the interest earned on the collateral then the fee will be negative. Stocks that have a fee greater than 100 basis points (1%) are considered to be *SPECIAL*, they are more closely watched by investors and are more expensive to borrow.

In Table 2 we present descriptive statistics for the equity lending market for 13,710 firm-years. During the 2005-2009 period, on average, 19.57% of a firm's market capitalization is available for lending; with 3.3% is on loan; resulting in a utilization rate of 16.93%. The minimum and maximum values of *SUPPLY* are 0.01% and 74.38%, respectively. Stocks that

[11] See Saffi and Sigurdsson (2010) for a detailed description of the data.

have low institutional ownership tend to have low lending supply. *ON LOAN* varies from a high of 42.01% to a low of zero. Some stocks are heavily borrowed while others are not borrowed at all. *UTILIZATION* is as high as 99.7% in our sample, implying that the supply of lendable securities barely meets the demand to borrow. The mean annualized fee is 42 bps. Therefore the daily cost of borrowing $1 billion worth of shares on the record date at the average fee is less than $12,000 ($1 billion * (0.4163%/365) = $11,405). However, this cost can quickly rise for stocks in high demand. Using the maximum fee in our sample, 1925 bps, the daily cost of borrowing the same amount would rise to $527,397. The minimum fee of -130.27 bps implies that the lender pays the borrower. As discussed above the lender may have to pay the borrower in fixed contracts in which the rebate is fixed in advance but interest rates are volatile. During 2005-2009, 9.11% of the stocks had a fee greater than 100 basis points and were considered to be *SPECIAL*. In our sample the mean and median number of days for which stocks are on loan is 16 days and one day, respectively. Most loans are open-loans, which are "open ended" and are rolled over every day.

As shown in Table 3, the supply of lendable securities as a percentage of market capitalization (*SUPPLY*) grows from 10.98% in 2005 to 23.27% in 2007, and demand for borrowing shares, estimated by *ON LOAN*, grows from 2.21% to 4.43%. Clearly, institutional investors have become sophisticated and consider securities lending programs as a source of revenue. *SUPPLY* in 2008 and 2009 remains close to 2007 levels, even though some smaller institutions have terminated their securities lending program after the crisis. However, demand experiences a large drop after 2007. During the financial crisis, there were many restrictions placed on short selling that impacted the several arbitrage strategies that were being used by hedge funds, hence the demand for borrowing shares. *UTILIZATION* shows a steady decline

during the period decreasing from 20.76% in 2005 to 14.26% in 2009. As a result, the average annualized fee (*FEE*) is lowest in 2008 at 24.26 bps. During the period 1998-99, studied by Christoffersen et al. (2007) report much lower fee at 10 bps. In a recent paper, Asquith, Au, Covert and Pathak (2010) examine the market for borrowing bonds for the period 2004-07 using data from one major depository institution. They report mean and median cost of new bond loans, weighted by par value, to be 22 and 14 basis points, respectively.

3.3 Other Firm-Level Data

We use CRSP, to obtain share price (*PRICE*), market capitalization (*SIZE*), turnover (*TURNOVER*), bid-ask spread (*SPREAD*), and cumulative five-day returns (*RETURNS*)[12]. We only use common shares with price over $1, and further merge the data to Compustat and collect data on sales (*SALES*), total assets (*ASSETS*), book debt (*DEBT*), book equity (*EQUITY*) and total dividends (*DIVS*). We exclude ADRs and REITs.

We obtain ownership data from the Thomson Reuters CDA/Spectrum database on SEC 13F filings. The 13F filings need to be reported on a quarterly basis by all investment companies and professional money managers with assets under management in excess of $100 million. For each stock, we calculate total institutional ownership as a percentage of market capitalization (*INST*) and institutional ownership concentration (*INST CON*), measured as the Hirschman-Herfindahl index normalized to be between zero and one.

We obtain firm-level corporate governance attributes from RiskMetrics and use them as in Aggarwal, Erel, Ferreira and Matos (2010). We examine 41 firm-level governance attributes covering four broad sub-categories: (1) *Board* (24 attributes), (2) *Audit* (three attributes), (3) *Anti-takeover provisions* (six attributes), and (4) *Compensation and Ownership* (eight attributes).

[12] In results not reported we also use cumulative abnormal returns based on the Carhart (1997) four-factor model. The results are unchanged.

We use the 41 individual attributes to create a composite governance index, GOV_{41}, for each company. GOV_{41} assigns a value of one to each of the 41 governance attributes if the company meets minimally acceptable guidelines on that attribute, and zero otherwise.[13]

4. Empirical Results

Daily securities lending data is available for the three-year period January 1, 2007 to December 30, 2009, therefore we focus on this period to examine the activity in the securities lending market on a daily basis around the record date.

4.1 Lending, Borrowing, and Loan Fee Around Record Date

Figure 1 shows the lending supply, borrowing, utilization, and loan fee for the period starting 30 days before the record date and ending 30 days after the record date. We consider the record date (day 0) to be the event date. On average, the time between the record date and the date of the shareholder meeting is 53 days. On the event date, to have the right to vote the borrowed shares, an investor must establish a position in the in order to have the right to vote the borrowed shares. The data on lending supply and borrowing is based on settlement taking place on the reported day and therefore accounts for the three-day settlement period. To have borrowing rights a borrower must settle the transaction by the record date but can immediately reverse the position on day +1.

Each of the plots in Figure 1 represents the average of *SUPPLY*, *ON LOAN*, *UTILIZATION*, and *FEE* on each of the days (-30,+30) around the record date for both the full sample and also for the subsample of firms in which utilization is in the lowest and highest quartile. For those firms in the highest utilization quartile, the equity lending market is more

[13] Aggarwal, Erel, Stulz, and Williamson (2009) describe the data in more detail.

likely to be binding and therefore record date effects should be more pronounced. When we focus on the mean time series for lending supply, on loan, utilization and fee, it is clear that there is an event date effect on the record date. The supply of shares available to lend as a fraction of market capitalization is at its lowest point on day 0, and starts to decrease about 15 days before a vote. For the 7,415 record dates, we find that lending supply drops from approximately 24% to below 22% in the period approaching the record date. Borrowing demand (*ON LOAN*) exhibits a small increase around the record date. *UTILIZATION* and *FEE* both increase in the 15 days prior to the record date mirroring the decrease in supply.

When we examine lending activity for the firms in the highest quartile utilization, we find lending supply is lowest for this group at the start of the event window and that the record date effect is similar to that for the full sample. However, we find that borrowing demand first decreases in the period prior to record date and then increases on the record date. At the same time utilization and fee both increase before the record date and then drop after the proxy voting record date. The graphical analysis for firms in the top quartile of utilization is consistent with a scenario in which, due to prior high utilization, the recall of supply leading up to the record date both increases utilization and diminishes borrowing, because borrowers find their loans recalled. We explore this further in Section 4.4 by examining how the changes in demand are related with the changes in lending supply.

As long as shares are not lent out on day 0, the owner can vote them. However, our results suggest that for supply is restricted far in advance of a proxy event. On average, institutions start restricting supply of shares about 15 days before the record date. They do so to ensure that shares can be recalled and voted. There is a much smaller movement in the demand for borrowing prior to the event date. Utilization and fee both increase prior to the voting record

date, due more to supply constraints than to an increase in demand. On day 1 after the record date, *SUPPLY* returns to pre-event levels because institutions do not want to lose revenue from lending.

Table 4 provides further details on the changes taking place in the securities lending market just prior to the record date. There is a total of 7,597 firm-record dates in our sample. For the full sample, *SUPPLY* starts at 24.05% on day -30 and reduces to 22.09% by the record date (day 0), which corresponds to a 8.15% reduction in supply. The amount available to lend is reduced by 1.96% of market capitalization. This result is consistent with institutions calling back their shares at the time of a vote. As previously mentioned, funds such as Putnam have a standing policy to recall shares to vote; other funds have policies to recall based on the proxy agenda items. Institutional investors weigh the cost of lost revenue from recalling shares loaned with the benefits of exercising their voting rights.

Lending supply increases immediately after the record date, indicating that institutions again lend out their shares immediately after controlling the right to vote, thus resuming the revenue stream obtained through equity lending. In contrast, we do not find any change on the borrowing side. On day -30, on average, 4.12% of a firm's market capitalization is on loan, and by the record date it grows to 4.14%. The demand for borrowing stock increases only by 0.02% of a firm's market capitalization. The reduced supply and increased borrowing results in an increase in the utilization rate and in loan fee by 9.36% and 9.52%, respectively.

4.2 Proxy Proposal Categories

We categorize record dates of corporate votes, which enable us to examine those that might be considered to be contentious based on disagreements between different parties and those that are associated with significant events. Voting is likely to be more important for some

categories of proposals. The five categories we use are management-sponsored proposals, shareholder-sponsored proposals, merger-related proposals, proposals for which management recommends AGAINST and ISS recommends "For", and proposals for which management recommends FOR and ISS recommends AGAINST. We put mergers in a separate category because institutions frequently restrict lending or call back their shares to vote on a merger. In addition, a merger is a corporate event that the SEC is likely to consider material, in which case funds are required to call back their shares. Proposals in which management and ISS disagree are potentially contentious.

Table 4 provides details on the evidence that institutions limit lending around material proposals. Management-sponsored proposals have lower supply, higher demand, utilization and fee than do shareholder-sponsored proposals on day -30 and day 0. Over time, the percentage change in *SUPPLY* and *UTILIZATION* is greater for management-sponsored proposals and the percentage increase in demand and fee is greater for shareholder-sponsored proposals. For mergers, the average lending supply is 21% of market capitalization compared to 24.05% for the full sample. Over the same period, borrowing demand increases by 8.50%, and fee increases by 9.38% from day -30 to day 0. These results suggest that for important corporate events such as mergers, much before the record date, lending supply is low and borrowing demand is high, resulting in a high utilization rate and loan fee. Institutions that already own the stock value their right to vote and thus are willing to give up the revenue associated with lending shares for important corporate events. In addition, there is increased demand to borrow the stock for voting. Merger results may also be driven by arbitrage-related strategies. The lending supply is also low for contentious proposals where management is for the proposal but ISS is against. On average, the lending supply is 21.49% for the 1,117 record dates with at least one proposal having an ISS

recommendation of AGAINST and management recommendation of FOR. This category of proxy proposals has the second highest loan fee on record date. We do not observe these patterns for any of the other categories including those in which management is AGAINST and ISS is FOR the proposal.

Table 5 compares *SUPPLY*, *ON LOAN*, *UTILIZATION*, and *FEE* on the record date. We observe values 30 days before the record date (day t= -30) for proxy votes associated with merger and non-merger proposals, and proposals in which ISS is against compared to those supported by ISS. There are 152 record dates associated with mergers. The remaining 7,445 record dates are not associated with a merger. The difference in *SUPPLY* between non-merger and merger dates is negative and statistically significant at both t=0 and t=-30. However, the difference in *ON LOAN*, *UTILIZATION*, and *FEE* is not statistically significant. There are 1,177 record dates associated with proposals opposed by ISS and 6,420 are supported by ISS. The difference in *SUPPLY*, *UTILIZATION*, and *FEE* between ISS not against compared to ISS being against is statistically significant at 1% on the record date (day 0) and again at 30 days before the record date (day -30).

4.3 Determinants of Lending Supply, Borrowing Demand and Loan Fee

We further investigate the determinants of the equity lending market further by estimating separate pooled regressions in which we use daily lending supply, borrowing, and loan fee on the record date as the dependent variables. The explanatory variables are proposal type, and firm characteristics. Based on previous results, the two proposal types examined are mergers and proposals for which management is FOR and ISS is AGAINST. For each of the 7,415 record dates, we consider the event window of -30 days to +30 days, where t=0 is the

proxy voting record date.[14] We first include a record date dummy (*RDATE*) to examine whether there is abnormal equity lending market activity on the record date compared to the 30 days before and after the record date.

To examine if there is an additional effect of a merger proposal, we interact *RDATE* with a dummy variable that takes the value of one if there is a merger proposal (*DMERGER*) on the proxy ballot associated with the record date. Similarly, *RDATE* is also interacted with a dummy that captures ISS's recommendation (*DISS*). The *DISS* dummy equals one for proposals where ISS recommends AGAINST and management recommends FOR the proposal.[15]

We also include the following variables. To control for ownership, we use *INST*, the institutional ownership from the end of the previous quarter measured as a percentage of market capitalization, and *INSTCON*, the concentration of institutional holdings using the Hirschman-Herfindahl Index. We use lagged values of log of market capitalization (*SIZE*), book-to-market ratio (*BM*), turnover (*TURNOVER*), and spread (*SPREAD*) as explanatory variables controlling for firm - characteristics. We also include a dummy for stocks with a share price below five dollars (*DPRICE*), and the five-day stock return (*RETURN*). In all regressions we cluster standard errors by firm and year-month fixed effects are included.

Columns 1-5 of Table 6 report the results for the determinants of lending supply. The dependent variable is lending supply, expressed as percentage of market capitalization. In column 1, the explanatory variable *RDATE* has a coefficient of -1.65, which is significant at 1%. In terms of economic significance; the coefficient indicates that on average, lending supply

[14] The sample is reduced to 7,415 record dates due to the requirement of observing all regression variables on each of the days in the window (-30,+30). Our results remain the same even if we do not impose this restriction on the sample.

15 Usually record dates have several proposals under consideration on the same day. *DISS* equals one whenever there is at least one proposal on the record date where ISS recommends AGAINST and management recommends FOR the proposal. We also estimate regressions using unique proposals rather than record dates and obtain similar results.

decreases by 1.65% of market capitalization on the record date, or approximately 8% of the level on day -30. Column 2 introduces *DMERGER* and the interaction of *RDATE* and *DMERGER*. We find that for meeting record dates with a merger proposal on the proxy ballot, lending supply decreases by approximately 1% of market capitalization on the record date. The coefficient of *DMERGER* is -3.209 and statistically significant implying that lending supply of stocks with merger proposals is much lower than the full sample.

In column 3, we repeat the analysis for proposals opposed by ISS and supported by management. The coefficient of *DISS* is -2.766, implying that proposals opposed by ISS and supported by management exhibit a significantly lower lending supply throughout the event window. As with merger events, the recall of lending supply is both statistically and economically significant. Further, the decrease in lending supply on the record date is not significantly different from the 1.6% reduction found for the full sample.

In column 4, we include firm-level controls to explain the record date effects. Even after controlling for other firm characteristics, lending supply is significantly lower on the record date for both mergers and proposals opposed by ISS and supported by management. Both the single-day record date effect and the lower supply during the event period cannot be explained by firm characteristics alone. In addition, lending supply is higher when institutional ownership (*INST*) is higher and dispersed (*INSTCON*), and for value stocks (*BM*); and lower for stocks with price below $5 (*DPRICE*), and stocks with larger prior five-day returns (*RETURN*). The coefficient of *SIZE* is negative and significant when other firm-level attributes, however it is positive and significant if these other attributes are not included, particularly *INST*, because of the high correlation with *SIZE*.

In our final specification, we introduce firm-level corporate governance, *GOV41*, which is higher in firms with better corporate governance. The results are interesting along two dimensions. First, the positive and statistically significant coefficient of 3.968 on *GOV41* indicates that firms with better governance have higher lending supply in general even after controlling for institutional ownership and other firm characteristics. Second, our previous results on the recall of supply continue to hold. This finding shows that we are not simply observing a governance effect when examining mergers or proposals opposed by ISS and supported by management. The results are consistent with the argument that better governance alleviates shareholders' concerns that share lending will be detrimental to the value of their holdings.

The determinants of borrowing demand appear in columns 6-10 of Table 6. In column 6, the coefficient of *RDATE* is 0.056 is significant at 1%, and demand is higher on the record date than on the days before or after the record date. This amounts to an increase of 1.7% compared to the full period. The change in borrowing demand is economically much smaller than the change in lending supply, suggesting that supply constraints rather than increased demand effects are most important. When we focus on the mergers and ISS recommendations in columns 7 and 8, we find that borrowing demand is not significantly different around these proposal events. However, the results in column 9 show that after the inclusion of control variables, *ON LOAN* is higher for those firms with proposals opposed by ISS, but not for record dates in general. Borrowing demand is higher if institutional ownership is higher and dispersed, and for stocks that are more liquid, and lower for stocks with price below $5, and stocks with larger prior five-day returns. Again, we include the corporate governance index *GOV41* in the last specification in column 10. Interestingly, the coefficient on *GOV41* is negative. Although better corporate

governance alleviates shareholders' concerns when lending, it appears to deter those investors who borrow stock. The result is consistent with the hypothesis that better governance deters stock borrowing and subsequent short selling because, all else equal, better governance is associated with fewer opportunities for investors to profit on the downside.

Table 7 reports the results of similar tests with *FEE* as the dependent variable. Again, the pooled regressions examine abnormal fee on the record date by considering the event window of -30 days to +30 days, where t=0 is the record date. The results in column 1 indicate that the fee for borrowing stock increase, on average, by 2.544 bps on the record date, which is both statistically and economically significant. The record date increase in fee represents a 5.8% increase compared with the sample average of 42 bps. In column 2 we show that, on average, merger proposals have no further effect on record date borrowing costs. The results presented in column 3 show that the record date increase in borrowing cost is significantly related to firms that receive ISS negative recommendations. These recommendations are associated with a higher loan fee of 30.90 bps. These results are consistent with those for borrowing supply and demand: supply is recalled for all proposals, but it is recalled significantly more for proposals where ISS opposes a recommendation; and demand increases for proposals that are opposed by ISS.

In column 4 we again include firm-level controls that might explain the record date effects. We find that larger firms, and firms with more dispersed institutional ownership, are associated with a lower loan fee. Conversely, prior low returns, higher turnover and stocks with prices below five dollars are associated with a higher loan fee. The record date effect on loan fee is unchanged but the effect of negative ISS recommendations is approximately half than in column 3.

Next, we examine how the equity lending market conditions affect loan fee. In Figure 2 we present fitted plots of loan fee against lending supply, borrowing demand, and utilization. Fee remains low for very low levels of utilization, but starts to rise as utilization increases above 20-30 percent. Interestingly, loan fee begins to increase even where lending supply is slack, suggesting that lending supply is an important determinant of fee even where utilization is relatively low. The documented relationship between utilization and fee is consistent with the results in Kolasinski, Reed, and Ringgenberg (2010). The finding also adds insight to Blocker, Reed and Van Wesp (2010) who argue that shifts in supply matters only for stocks on special by revealing that supply shifts become important even at relatively low levels of utilization, and is in contrast to recent literature that suggests that lending supply is not an important determinant of short sale constraints (Cohen, Diether and Malloy, 2007).

In column 5 of Table 7, we incorporate the findings of Figure 2 by including controls for utilization. Specifically, we include a dummy equal to one if the firm is in the top quartile of record date utilization (*HIGH UTIL*) and additionally interact this with the record date proposal dummy variables. We expect the coefficient on utilization to be positive and find this to be true. The coefficient of 4.971 on *RDATExHIGH UTIL* illustrates that stocks in the highest quartile of utilization exhibit record date borrowing effects over three times larger than other stocks. Furthermore, after controlling for both firm characteristics and lending market conditions we find that ISS recommendations are no longer important for fee, and that merger proposals on average exhibit a lower fee in the event window. Finally, in column 6 we include the corporate governance index *GOV41*, and the results continue to hold.

Based on the results for lending supply and borrowing demand, there is strong evidence of reduced lending supply around the time of a proxy vote, and this reduction in supply is more

pronounced if there is a merger-related proposal on the ballot or there is an agenda item opposed by ISS. The results on the importance of ISS recommendations is consistent with Choi, Fisch and Kahan (2008), who conclude that ISS recommendations aggregate information considered to be important by investors. On the demand-side, we find an economically smaller record date effect. Finally, we show that fee increase on the record date. This finding is consistent with restricted supply and higher demand.

4.4 Change in Lending Supply, Borrowing Demand and Loan Fee

Next, we investigate the changes in lending supply, on loan, and fee in the period before and after the record date. If institutions follow governance polices stipulating that they will recall lending supply around the record date, then we should expect that there will be negative changes in the period prior to and including the record date, and positive changes in the period after the record date when institutions reverse the recall. Similarly, if the borrowing demand we documented in Table 6 is a record date effect, then we should see positive changes in the period prior to the record date and a decrease in on loan after the record date.

In Table 8 we investigate the mean change in lending supply, on loan, fee and utilization in the ten days before and after the record date for all proposals, merger proposals and proposals that ISS opposes. We estimate d as the difference in value between day t and day t-1, divided by value on day t-1. Consistent with our expectations, in the period leading up to the record date lending supply decreases, and on-loan, fee, and utilization increase. For example, lending supply decreases by approximately 0.6% per day in the ten-day period prior to the record date. Conversely, in the ten-day period after the record date, we find that lending supply increases, and on loan, fee, and utilization decrease. The difference between the prior and post-event period mean that change is significant in all cases. For merger proposals, equity lending supply

decreases prior to the record date and increases after the record date, but we find no significant difference in changes in on loan or fee. For ISS proposals, the results are similar to the full sample, showing a reduction in supply and increase in borrowing, utilization and fee. These univariate results provide evidence in support of institutions recalling equity lending supply around record dates in general.

In Tables 9 and 10 we develop the results in Table 8 by using a regression framework. We examine the daily changes in lending supply, on-loan, and fee for the event window of -30 days to +30 days, where t=0 is the record date. We also include an event dummy equal to one in the nine days prior to and including the record date (*RDATE* (-9,0)) and a second event dummy equal to one in the ten days immediately following the record date (*RDATE* (0,10)). We find that the results are robust to shorter and longer estimation periods.

The regressions include lagged changes in the control variables described above, which are not presented for brevity. Columns 1 – 3 of Table 9 examine the effects of record day, merger proposals, and ISS opposition separately. Consistent with our earlier results and with institutions recalling lending supply, supply decreases in the ten-day window prior to the record date and rebounds in the ten days after the record date. For example, on average, supply decreases by 0.65% per day prior to record date and increases by 1.33% per day after the record date.

For mergers, both the pre-record date decrease in supply and the post-record date increase are smaller than for the full sample. Taken together with the findings in Table 6 the results suggest that supply is recalled much earlier for merger proposals, and institutions continue to restrict supply after the record date. This result is not surprising given the importance of mergers, the relatively long lead-time, and the continuing effects observed even after the record date. For proposals that ISS oppose, the recall of supply is greater in the period leading up to record date.

We find that shares are recalled at a rate of 0.76% per day and released at a rate of 1.59% per day. In column 4, we include effects for record dates, merger proposals, and ISS opposition. Consistent with the results in columns 1 – 3, we show that while lending supply is recalled, and subsequently released, for the record date, recall is largest for proposals opposed by ISS: the coefficient of -0.123 on the interaction term of *RDATE* (-9,0) *x DISS* indicates that lending supply decreases by an additional 20% per day when compared with the full sample decrease of -0.644% per day.

In column 5 we examine two further effects. First, we examine if lagged changes in loan and fee play a role in the equity lending market. The statistically significant coefficient of 0.009 on *Change in On Loan* indicates that supply accommodates changes in demand, but that the economic importance is small. However, we find no evidence that supply reacts to changes in fee.

In columns 6 – 10 we examine the changes in borrowing demand. We find that borrowing demand increases in the run-up to the record date and decreases after the record date. However, it is not obvious that the result stems from empty voting. In columns 7 – 9 we investigate borrowing demand for merger proposals and ISS-opposed proposals, which represent the most material proposals and hence where empty voting should be most important. For merger proposals, there is no evidence that borrowing demand is higher than it is for less material proposals. Further, for proposals that ISS opposes we find that the increase in borrowing demand is actually less than it is for less material proposals. Based on this evidence, if empty voting is a concern for shareholders then we are puzzled to see that it is less so for material proposals. In the case of merger proposals, it is possible that the results are being driven by merger arbitrage strategies. However, proposals opposed by ISS should not be affected by borrowing related to arbitrage strategies.

In column 10, we again examine if lagged changes in loan and fee play a role in the change in borrowing demand. Unlike the results for supply, we find that both lagged change in lending supply and fee are statistically and economically significant. We find that borrowing demand reacts positively to prior changes in supply and negatively to higher fee. Further, when we examine the interaction of changes in supply with utilization, we find that the effect on changes in demand increases for firms with high utilization. The result that demand reacts to supply confirms the findings in Section 4.1 and Figure 1. A recall in supply leads to lower demand, so we observe a fall in demand prior to the record date; further, the link is stronger where utilization is high and there is less slack capacity in the market to absorb the reduction is lending supply.

In Table 10 we investigate how the cost of borrowing changes around the record date. The results in Table 9 that show that supply is recalled and borrowing demand increases around the record date suggest that loan fee should also increase. The results in columns 1 – 5 provides further evidence for the reduction in supply and increase in demand, but importantly only when utilization is high, and not for more material proposals. It is not surprising that utilization plays an important role in changes in fee. Figure 2 plots record date loan fee against utilization, on loan and supply, and shows that fee remains flat as utilization increases and then increases rapidly beyond utilization levels of approximately 20-30%. The median utilization in our sample is 10.53%, which suggests that supply is sufficiently slack to absorb tightening lending conditions in more than half of record dates.

In column 6 we investigate if lagged changes in loan, changes in supply and in utilization play a role in the cost of borrowing. The results correspond with the evidence presented in Figure 2. Increases in borrowing demand and decreases in lending supply increase the cost of borrowing,

and the effect is strongest where utilization is high. Additionally, after conditioning on the actual changes in lending supply and borrowing demand around the record date, we see that the effects of a recall in lending supply are significantly larger than are the effects of greater demand. The observed increase in loan fee is most pronounced for stocks exhibiting high utilization, and related to the recall in lending supply around the record date.

The results on changes in lending supply and borrowing demand provide further evidence for our conclusions that lending supply is recalled around the time of a proxy vote, the reduction in supply is more pronounced if there is an agenda item opposed by ISS, and that the recall of supply ultimately leads to lower demand. We find some evidence that borrowing increases around the time of a proxy vote, but no evidence that increased demand is related to the materiality of the proposal. In fact, for items opposed by ISS borrowing demand is lower. We do find evidence that the cost of borrowing increases around the record date, but only for high-utilization stocks. Again, the results are not related to the type of proposal.

5. Additional Analysis

5.1 Dividend Record Dates

There is some evidence that the equity lending market is affected by the dividend record date owing to dividend tax-arbitrage strategies. To ensure that our results are not driven by an alternative explanation based on dividend tax-arbitrage strategies, we first examine the frequency of dividend and proxy record dates. Then we repeat our analysis by controlling for stocks that pay dividends.

For the 7,415 proxy record dates in the period 2007-2009 we observe 2,609 dividend record dates in the window (days -30,30) around the proxy record date. The mean (median)

number of days between the proxy record date and the dividend record date is 11.6 (11.0) days and only 235 proxy record dates coincide with a dividend record date. In Figure 3 we plot the equity lending market activity around the dividend record date. We find a large spike in borrowing demand around dividend record dates, but little change in lending supply. These results are in sharp contrast to Figure 1, which shows that activity around proxy voting dates, when there is a marked reduction in lending supply and only a small change in borrowing demand. The large increase in demand is potentially driven by dividend arbitrage activities.

In Panel A of Table 11 we present robustness results. We repeat the tests shown in Tables 6 and 7 but now we include dividend record dates. We include a dummy variable equal to one if the firm reports paying a dividend at least once in the past three years (*DIV DUMMY*), and a dividend record date dummy equal to one if the dividend record date is observed within our [-30, +30] days event window (*DIV RDATE*). We show that the results in Tables 6 and 7 continue to hold for equity lending supply, borrowing demand, and loan fee. Examining the effects of dividends we find that firms that pay dividends in general exhibit higher lending supply. On the dividend record date, lending supply, borrowing demand, and loan fee increase. The increase of 0.638% in borrowing demand is economically large, and much larger than the change in borrowing of 0.064% associated with the proxy voting record date. However, the increase in lending supply is economically small at 0.135% which is far smaller than the decrease of 1.617% observed for proxy voting record date. The equity lending market behaves very differently around proxy voting record dates than it does around dividend record dates. There is a sharp decline in supply of lendable shares around the time of a vote that we do not observe around the time of a dividend record date.

5.2 Financial Crisis

Here, we analyze activity in the securities lending market during the financial crisis of 2008 and their impact on voting proxies record date. During the crisis there was considerable concern about counterparty risk following the events surrounding Bear Stearns and Lehman Brothers. Singh and Aitken (2009) examine 10-Q reports of three major custodian banks, Bank of New York, State Street, and J.P. Morgan, before and after the bankruptcy of Lehman Brothers and find a decrease in total securities lending of $1.48 trillion in the June, 2008 to $0.82 trillion by December 2008. There were concerns about the instruments used to invest the collateral and some custodial banks were sued by equity lenders due to poor risk management of clients' securities loans. Securities placed by investors as collateral with prime brokers were sometimes reused as collateral to fund positions taken by the prime broker itself. If the broker goes bankrupt, as in the case of Lehman, investors face the risk of not being able to get hold of their securities. This increased counterparty risk resulted in some institutional investors restricting or even closing their securities lending program.

The short selling bans imposed by regulators in many markets also had an impact on short selling and securities lending. Beber and Pagano (2010) find that the short selling bans imposed in more than twenty different countries during the financial crisis reduced liquidity, slowed down price discovery, and failed to support stock prices. Boehmer et al. (2009) study the short selling ban in the US and find a reduction in shorting activity and an increase in spreads, price impact, and intraday volatility. Kolasinski et al. (2010) find a significant increase in loan fee following the ban.

We introduce a dummy *LEHMAN* equal to one for all days in 2008 on or after September 15th that characterize our "crisis" period in order to examine the effect of the financial crisis on equity lending around record dates. We re-estimate our regressions including the *LEHMAN*

dummy and present results in Panel B of Table 11. Supply, demand, and fee all decreased during the crisis period. Borrowing demand decreased more than lending supply, which explains why fee decreased by about 29 bps. Even after controlling for the financial crisis, our results continue to hold and we find reduced supply and a small increase in demand at the record date. The interaction of *RDATE* with *LEHMAN* does not result in any significant changes in lending and supply and fee before and after the crisis. However, we do find evidence to support less borrowing demand on record dates following Lehman's bankruptcy, consistent with borrowers becoming less keen to engage in short selling.

6. Conclusion

In this paper we provide a comprehensive analysis of the securities lending market during a period of tremendous growth in the market. In the past, understanding the securities lending market has been limited partly due to the lack of transparency in this fragmented market. To study the securities lending market in the United States during the period 2005-2009, we use a proprietary data set consisting of shares available to lend (supply), shares borrowed (demand), and loan fee. The data covers most of the securities lending activity in the United States. We find that on average, 19.57% of a firm's market capitalization is available for lending, 3.3% is actually borrowed, and the annualized loan fee is 42 basis points. The variation in the supply of lendable shares shows great variation with minimum and maximum values of 0.01% and 74.38% of market capitalization. We find that more supply is available for stocks with larger institutional ownership. There is considerable interest in some stocks and almost 100% of the available supply of such stocks actually gets borrowed and is on loan. For these high-utilization stocks, the annual fee can be quite high, with the maximum being 1926 bps. Fee is negative in some

cases, implying the lender pays the borrower. The negative fee can happen in fixed contracts in which the rebate is fixed in advance but interest rates are volatile. During 2005-2009, 10% of the stocks were very expensive to borrow and had a fee greater than 100 basis points. 2007 was the peak year for the securities lending market with activity dropping off after the financial crisis.

We examine the role of institutional investors in the voting process by analyzing the supply of lendable shares around the time of a proxy vote. At the time of a proxy vote, there is a significant reduction in the supply of shares available to lend because institutions restrict or call back their loaned shares prior to a vote. We find that there is a marked reduction in supply of lendable shares around the time of a proxy vote. The reduction in supply of more than 1.64% of market capitalization on the record date is economically significant. Our results imply that institutions take seriously their responsibility to vote, and that they are even willing to give up revenue from lending securities when they see benefits from voting. The reduction in securities lending activity by institutions around the time of a vote is direct evidence of institutions playing a role in the voting process in order to bring about changes at companies. The reduction in the supply of lendable shares is most pronounced in cases associated with significant events such as mergers, and with agenda items for which ISS recommends voting against the proposal. Institutions restrict the supply and recall shares already on loan in order to vote on important proxy agenda items. These findings are consistent with institutions responsibly restricting and recalling shares, hence reducing supply of lendable shares well ahead of material proposals.

To address concerns related to empty voting, we also examine the changes in borrowing demand around the time of a vote. There is some evidence of increased demand around the time of the record date. However, the increase in demand is economically small compared to the

sharp reduction in supply. Most of the increase in loan fee around the time of a vote is associated with reduced supply, which is related to the desire of institutions to vote their shares.

In contrast to the activity around the record date of a proxy vote, we find that the large increase in loan fee around the time of the ex-dividend record date is driven by an increase in borrowing demand for cash flow reasons. However, there is no change in the supply of lendable shares. During the financial crisis of 2008, activity in the securities lending market decreased as institutions cut back on their lending programs. The demand to borrow stocks and the fee also experience large reductions during the financial crisis. .

Our results suggest that to obtain a complete understanding of the dynamics, it is important to examine both the supply and demand side of the market. Supply is not a constraint for most stocks but supply does get restricted for certain stocks around important events. Policy makers should address several issues related to proxy voting including the need for investors to learn about proxy items before the record date so that they can decide whether to lend their shares. In a similar context, we also believe it is important to address issues of over- and under-voting. However, our results suggest that the use of borrowed shares for voting purposes is limited. It is quite possible that this activity has been reduced in recent years because of the publicity related to empty voting.

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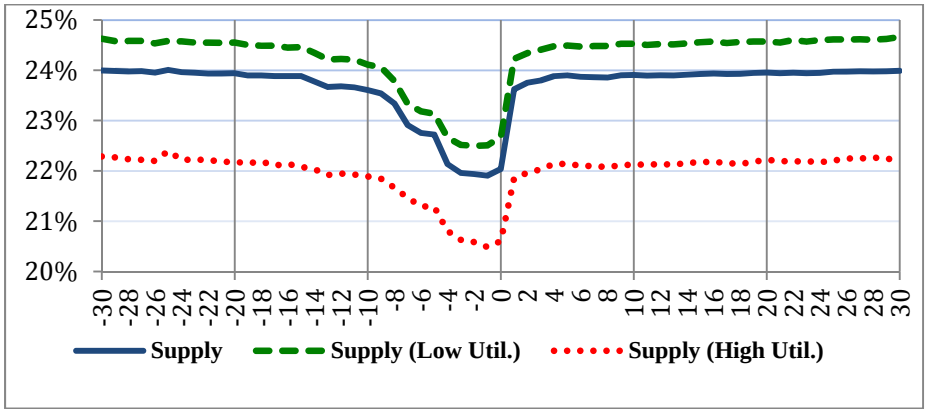
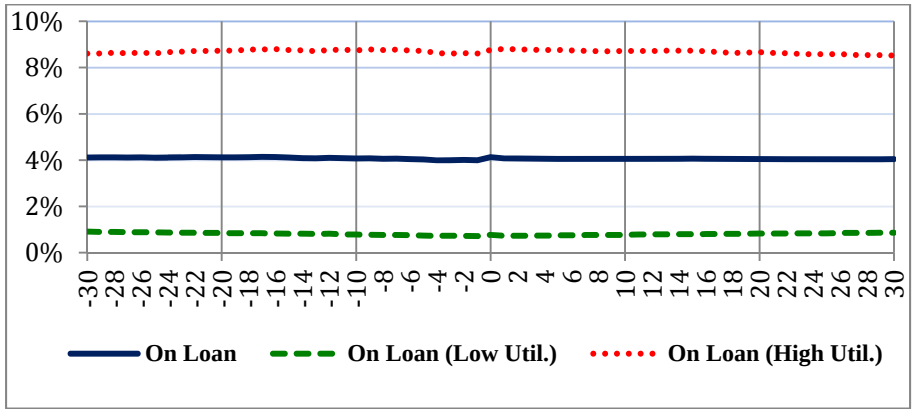
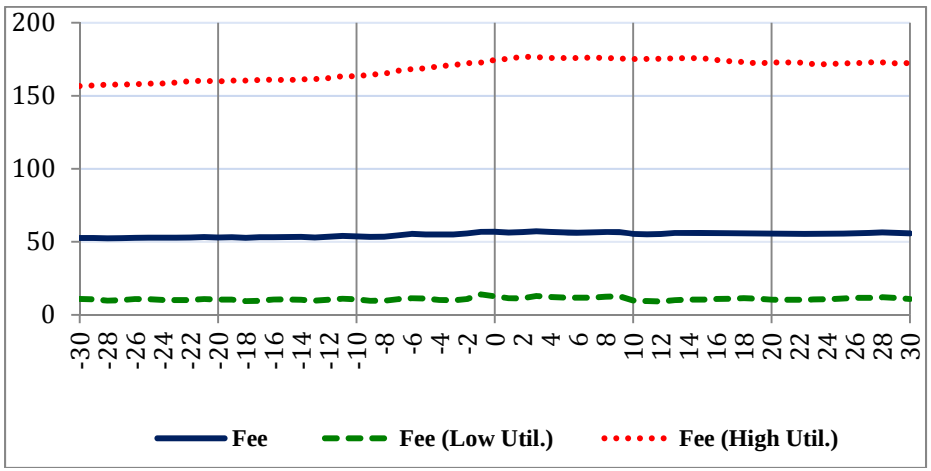
Figure 1
Equity Lending Market Activity around Record Date

The figure presents a daily plot of lending supply, on loan, utilization and fee for the period (-30,+30) for 7,415 record dates (day t=0 is proxy voting record date) during 2007-2009. Supply of lendable securities is expressed as percentage of market capitalization; demand is measured by dollar value of shares on loan as percentage of market capitalization; utilization is on loan divided by supply expressed in percentage; and fee is the annualized loan fee defined as the difference between the risk-free rate and the rebate rate, expressed in basis points. Rebate rate is the portion of the interest rate on the collateral that the borrower receives back. Average supply, on loan, utilization and fee are presented for the full sample, and also for stocks with high and low utilization. High (low) utilization is defined as stocks with utilization in the top (bottom) quartile for the present month.







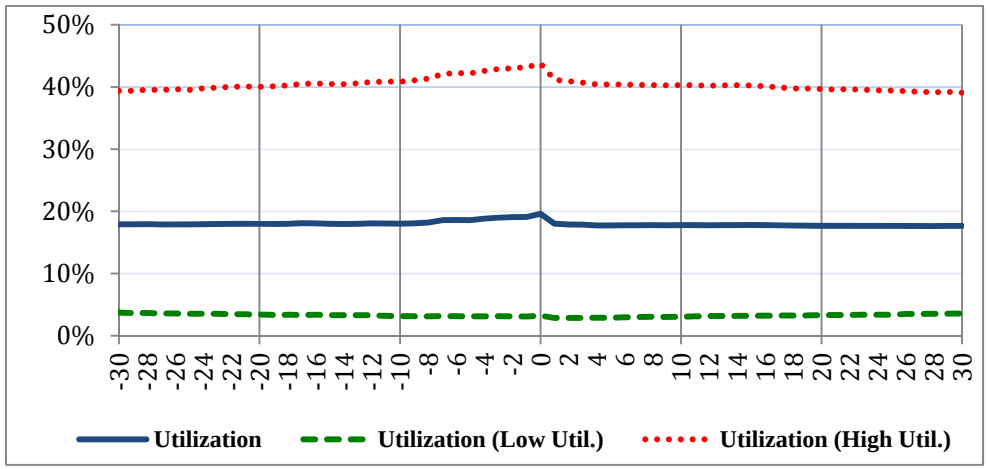


Figure 2
Fitted Plot of Equity Lending Supply, On Loan and Utilization

The figure presents fitted plots of loan fee versus equity lending supply, on loan, and utilization. Supply of lendable securities is expressed as percentage of market capitalization; demand is measured by dollar value of shares on loan as percentage of market capitalization; utilization is on loan divided by supply expressed in percentage; and fee is the annualized loan fee defined as the difference between the risk-free rate and the rebate rate, expressed in basis points. Rebate rate is the portion of the interest rate on the collateral that the borrower receives back. Each plot is based on a fitted polynomial of winsorized (1%, 99%) record date observations.

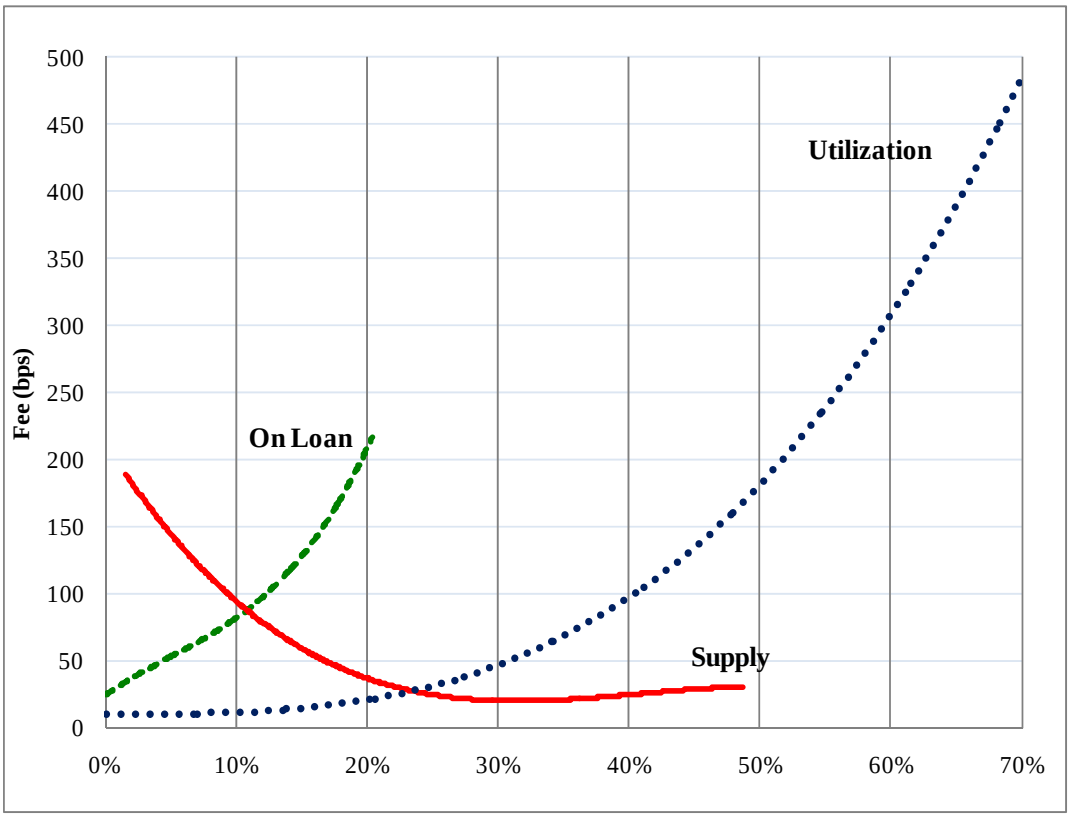
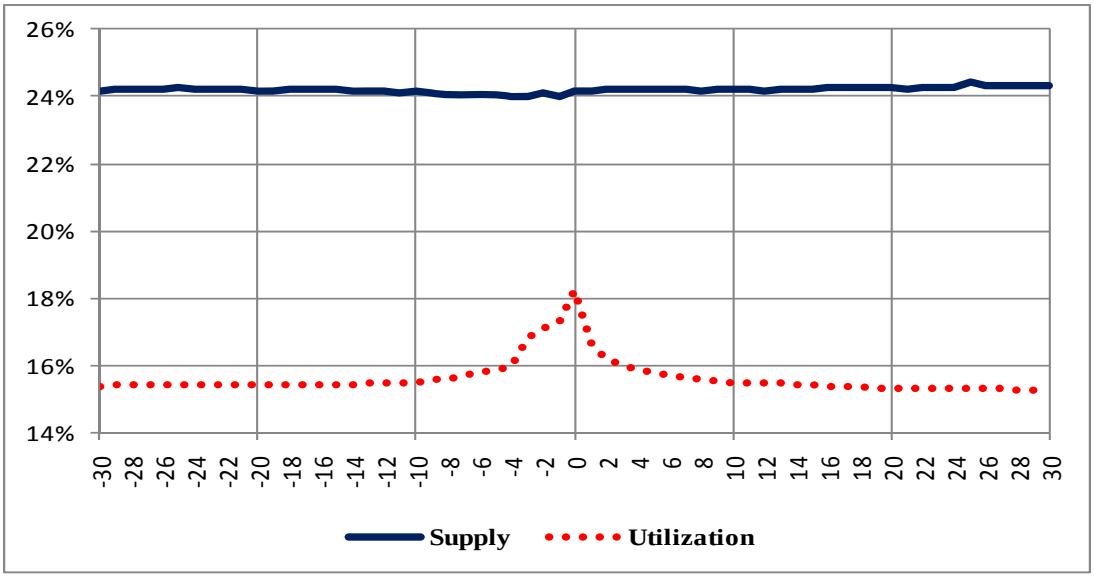


Figure 3
Equity Lending Market Activity around Ex-Dividend Dates

The figure presents daily plot of lending supply, on loan, utilization and fee for the period (-30,+30) for 14,278 dividend ex-dividend dates (day t=0 is based on settlement taking place on ex-dividend date) during the years 2007-2009 is presented. In the top panel, supply of lendable securities is expressed as percentage of market capitalization and utilization is on loan divided by supply expressed in percentage. In the bottom panel, demand is measured by dollar value of shares on loan as percentage of market capitalization as shown on the left axis; and fee is the annualized loan fee defined as the difference between the risk-free rate and the rebate rate, expressed in basis points as shown on the right axis.



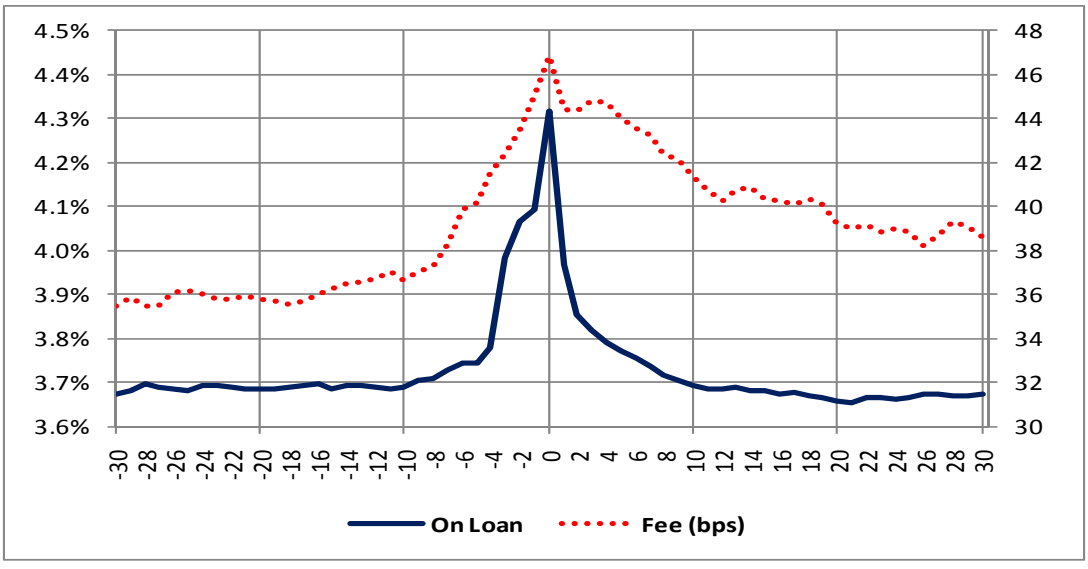


Table 1
Descriptive Statistics for Proxy Voting

The table presents descriptive statistics for proxy voting from 2005 through to 2009 for the full sample and also by year. Each firm can have several proxy agenda item in a given year. The number of proxy agenda items is displayed by proposal type and sponsor. Proposals can be sponsored by management (MGT) or by shareholders (SH). Proposals are categorized into eight groups based on the type of proposal: operational, board, proxy, anti-takeover, mergers, capital structure, compensation, and social issues.

	Total	**2005 (# Firms = 2,821)**			**2006 (# Firms = 3,023)**			**2007 (# Firms = 2,966)**			**2008 (# Firms = 3,373)**			**2009 (# Firms = 3,405)**		
	# of Proposals	*MGT*	*SH*	*# of Proposals*	*MGT*	*SH*	*# of Proposals*	*MGT*	*SH*	*# of Proposals*	*MGT*	*SH*	*# of Proposals*	*MGT*	*SH*	*# of Proposals*
All	105,143	97.08%	2.92%	19,375	97.06%	2.94%	21,107	96.73%	3.27%	20,172	96.44%	3.56%	21,370	96.49%	3.51%	23,119
Operational	12,860	99.86%	0.14%	2,172	99.60%	0.40%	2,517	99.68%	0.32%	2,506	99.38%	0.62%	2,755	99.52%	0.48%	2,910
Board	80,729	98.83%	1.17%	14,930	98.44%	1.56%	16,334	98.81%	1.19%	15,548	98.10%	1.90%	16,408	98.00%	2.00%	17,509
Proxy	17	0.00%	100.0%	4	100.0%	0.00%	1	0.00%	100.0%	4	60.00%	40.00%	5	33.33%	66.67%	3
Anti-Takeover	560	34.33%	65.67%	67	57.61%	42.39%	92	54.95%	45.05%	111	55.00%	45.00%	120	49.41%	50.59%	170
Mergers	393	86.49%	13.51%	74	94.20%	5.80%	69	94.57%	5.43%	129	93.75%	6.25%	80	95.12%	4.88%	41
Capital Structure	1,348	98.43%	1.57%	255	97.85%	2.15%	279	96.67%	3.33%	240	98.48%	1.52%	263	98.07%	1.93%	311
Compensation	8,110	91.88%	8.12%	1,674	92.83%	7.17%	1,575	86.32%	13.68%	1,411	90.07%	9.93%	1,510	93.09%	6.91%	1,940
Social Issues	997	0.00%	100.0%	188	0.00%	100.0%	194	0.00%	100.0%	201	0.00%	100.0%	216	0.00%	100.0%	198

Table 2
Equity Lending and Firm Characteristics

The table presents characteristics of the equity lending and other firm characteristics from 2005 to 2009. Panel A presents equity lending characteristics. *SUPPLY* is the percentage of market capitalization available to lend; *ON LOAN* is the percentage of market capitalization actually borrowed; *UTILIZATION* is the ratio of *ON LOAN* to *SUPPLY* expressed in percentage; *FEE* is the annualized borrowing fee expressed in basis points; and *SPECIAL* is the fraction of stocks which have a borrowing fee greater than 100 basis points. Panel B presents firm characteristics. *PRICE* is stock price; *SIZE* is market capitalization; *TURNOVER* is calculated as the ratio of daily dollar trading volume to market capitalization; *SPREAD* is the absolute value of the bid-ask spread divided by *PRICE*; *BM* is the book to market ratio; Price<5 is a dummy equal to 1 if the stock price is less than $5; and *INST* is the percentage of shares outstanding owned by institutions, right-winsorized at the 1%-level.

	Obs.	***Mean***	***Median***	***Std Dev***	***Min***	***Max***
Panel A: Equity Lending Characteristics						
SUPPLY	13,710	19.57%	18.90%	11.48%	0.01%	74.38%
ON LOAN	13,710	3.30%	1.76%	4.16%	0.00%	42.01%
UTILIZATION	13,710	16.93%	10.36%	18.11%	0.00%	99.70%
FEE	13,710	41.63	9.54	149.68	-130.27	1925.43
SPECIAL	13,710	0.0911	0.00	0.29	0.00	1.00
Panel B: Firm Characteristics						
PRICE	13,710	23.94	17.55	32.26	0.11	1415.56
SIZE	13,710	2,894	512	9,565	1	194,135
TURNOVER	13,710	0.93	0.70	0.92	0.01	22.82
SPREAD	13,710	0.79%	0.21%	1.94%	0.00%	38.15%
BM	13,710	0.70	0.52	0.95	-23.72	27.99
Price<5	13,710	0.15	0.00	0.36	0.00	1.00
INST	13,710	64.96%	69.62%	25.18%	5.64%	100.00%

Table 3
Average Equity Lending Over Time

The table presents descriptive statistics for the equity lending market for each year from 2005 through to 2009. *SUPPLY* is the percentage of market capitalization available to lend; *ON LOAN* is the percentage of market capitalization actually borrowed; *UTILIZATION* is the ratio of *ON LOAN* to *SUPPLY* expressed in percentage; *FEE* is the annualized borrowing fee expressed in basis points; and *SPECIAL* is the fraction of stocks which have a borrowing fee greater than 100 basis points.

	2005	**2006**	**2007**	**2008**	**2009**
SUPPLY	10.98%	18.67%	23.27%	22.37%	22.43%
ON LOAN	2.21%	3.86%	4.43%	3.36%	2.49%
UTILIZATION	20.76%	20.02%	18.17%	14.26%	10.87%
FEE	35.43	56.56	56.81	24.26	33.92
SPECIAL	0.07	0.11	0.13	0.09	0.06

Table 4
Lending Supply, Demand and Fee Changes Over Time

The average lending supply, on loan, utilization and fee are presented for 7,597 proxy voting events on day -30 and on day 0 (voting record date). Also shown is the change from day -30 to day 0. *SUPPLY* is the percentage of market capitalization available to lend; *ON LOAN* is the percentage of market capitalization actually borrowed; *UTILIZATION* is the ratio of *ON LOAN* to *SUPPLY* expressed in percentage; *FEE* is the annualized borrowing fee expressed in basis points. Proposals are categorized based on whether they are sponsored by management (*MGT Sponsored*) or shareholders (*SH Sponsored*); merger proposals; and whether management and ISS provide opposing recommendations with *MGT Against/ISS For* or *ISS Against/MGT For*.

		Day -30				***Day 0***				***Change from Day -30 to Day 0***			
	Obs.	***SUPPLY***	***ON LOAN***	***UTILIZ.***	***FEE***	***SUPPLY***	***ON LOAN***	***UTILIZ.***	***FEE***	***SUPPLY***	***ON LOAN***	***UTILIZ.***	***FEE***
Full Sample	7,597	24.05%	4.12%	17.95%	46.30	22.09%	4.14%	19.63%	50.70	-8.15%	0.49%	9.36%	9.52%
MGT Sponsored	6,713	23.77%	4.23%	18.69%	49.78	21.71%	4.23%	20.41%	54.33	-8.67%	0.00%	9.20%	9.14%
SH Sponsored	884	26.22%	3.31%	12.29%	19.89	24.99%	3.46%	13.69%	23.21	-4.69%	4.53%	11.39%	16.69%
Mergers	152	21.00%	4.00%	19.32%	60.13	19.90%	4.34%	21.54%	65.77	-5.24%	8.50%	11.49%	9.38%
MGT Against/ISS For	676	26.12%	3.17%	11.57%	14.34	25.01%	3.32%	12.98%	18.40	-4.25%	4.73%	12.19%	28.38%
ISS Against/MGT For	1,177	21.49%	4.13%	20.25%	69.41	19.72%	4.19%	22.38%	76.63	-8.24%	1.45%	10.52%	10.39%

Table 5
Lending Supply, Borrowing Demand, and Fee around Record Date

The table presents results of univariate tests of the effects of voting record date on the equity lending market. For each of fee, supply, demand (on loan) and utilization the mean calculated on record date and t=-30. The left hand panel compares those record dates involving a merger proposal with those that do not. The right hand panel compares those proposals that ISS opposes and management supports with the remainder of the full sample. Differences in daily changes and p-values from a two-sample mean comparison test are presented below.

Merger Proposals				**Management=For / ISS = Against**			
Supply	***Obs.***	***t = 0***	***t = -30***	***Supply***	***Obs.***	***t = 0***	***t = -30***
Non-Merger Days	7,445	22.14%	24.11%	*ISS=Not Against*	6,420	22.53%	24.52%
Merger Days	152	19.90%	21.00%	*ISS=Against*	1,177	19.72%	21.49%
Difference		2.24%	3.11%	*Difference*		2.81%	3.04%
p-value (Diff=0)		0.006	0.000	*p-value (Diff=0)*		0.000	0.000
On Loan				***On Loan***			
Non-Merger Days	7,445	4.13%	4.12%	*ISS=Not Against*	6,420	4.13%	4.12%
Merger Days	152	4.34%	4.00%	*ISS=Against*	1,177	4.19%	4.13%
Difference		-0.20%	0.12%	*Difference*		-0.06%	-0.02%
p-value (Diff=0)		0.596	0.735	*p-value (Diff=0)*		0.662	0.910
Utilization				***Utilization***			
Non-Merger Days	7,445	19.59%	17.92%	*ISS=Not Against*	6,420	19.12%	17.53%
Merger Days	152	21.54%	19.32%	*ISS=Against*	1,177	22.38%	20.25%
Difference		-1.96%	-1.40%	*Difference*		-3.26%	-2.72%
p-value (Diff=0)		0.182	0.304	*p-value (Diff=0)*		0.000	0.000
Fee				***Fee***			
Non-Merger Days	7,445	56.31	51.79	*ISS=Not Against*	6,420	50.05	46.82
Merger Days	152	79.01	72.08	*ISS=Against*	1,177	93.36	81.54
Difference		-22.70	-20.29	*Difference*		-43.31	-34.72
p-value (Diff=0)	0.314	0.328		*p-value (Diff=0)*		0.000	0.000

Table 6
Abnormal Equity Lending Supply and Borrowing Demand around Proxy Voting Record Date

The table presents results from an event study for effect of proxy voting on the equity lending market in the period (-30,+30) days around 7,415 voting record dates (voting record date is t=0). The dependent variable is lending supply (*SUPPLY*) in the left panel and is borrowing demand (*ON LOAN*) in the right panel. *RDATE* is a dummy equal to one on the record date; likewise *RDATE* x *DMERGER* and *RDATE* x *DISS* are equal to one on the record date if the proposal is a merger or ISS opposes the proposal respectively. *DMERGER* and *DISS* are dummies for firms with merger proposals or proposals that ISS oppose. *GOV41* is the governance index from Aggarwal et al. (2010). Control variables include institutional ownership (*INST*), concentration of institutional ownership (*INST CONC*), natural log of market capitalization (SIZE), book to market (*BM*), stock turnover (*TURNOVER*), bid-ask spread (*SPREAD*), a small stock dummy equal to one if stock price is less than $5 (*PRICE<$5*) and cumulative five day return (*RETURN*). All regressions include monthly time-effects and robust standard errors clustered at the firm-level, presented in parentheses. *** (**,*) indicates significance at the 1% (5%, 10%) level.

	Lending Supply (*SUPPLY*)					**Borrowing Demand (*ON LOAN*)**				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
RDATE	-1.650***	-1.659***	-1.663***	-1.642***	-1.641***	0.056***	0.055***	0.063***	0.087***	0.086***
	[0.039]	[0.039]	[0.041]	[0.041]	[0.041]	[0.012]	[0.012]	[0.013]	[0.015]	[0.015]
RDATExDMERGER		0.654***		0.554***	0.553***		0.069		0.102	0.103
		[0.172]		[0.181]	[0.181]		[0.074]		[0.091]	[0.091]
RDATE x DISS			0.095	0.124	0.124		-0.215		-0.071	-0.071
			[0.078]	[0.082]	[0.082]		[0.394]		[0.321]	[0.321]
DMERGER		-3.209***		-1.600***	-1.599***			-0.045*	-0.055	-0.055
		[0.878]		[0.552]	[0.552]			[0.026]	[0.034]	[0.034]
DISS			-2.766***	-0.813***	-0.766***			0.220	0.432***	0.406***
			[0.376]	[0.212]	[0.211]			[0.143]	[0.116]	[0.116]
GOV41					3.968***					-2.178***
					[1.171]					[0.694]
INST				28.223***	28.032***				5.240***	5.344***
				[0.437]	[0.442]				[0.256]	[0.259]
INST CONC				-51.733***	-51.613***				-4.230***	-4.296***
				[2.260]	[2.239]				[0.701]	[0.711]
SIZE				-0.598***	-0.684***				-0.762***	-0.715***
				[0.061]	[0.066]				[0.036]	[0.038]
BM				1.210***	1.176***				-0.008	0.011
				[0.146]	[0.146]				[0.083]	[0.083]
TURNOVER				0.041	0.042				1.114***	1.114***
				[0.064]	[0.064]				[0.048]	[0.048]
SPREAD				-0.203	-0.183				-0.297***	-0.308***
				[0.124]	[0.124]				[0.047]	[0.047]
PRICE<$5				-2.101***	-2.219***				-0.735***	-0.670***
				[0.258]	[0.259]				[0.129]	[0.129]
RETURN				-4.303***	-4.296***				-1.714***	-1.717***
				[0.239]	[0.239]				[0.141]	[0.141]
Constant	22.139***	22.220***	22.739***	12.107***	10.193***	2.460***	2.465***	2.413***	3.234***	4.280***
	[0.860]	[0.863]	[0.848]	[0.727]	[0.918]	[0.304]	[0.305]	[0.310]	[0.378]	[0.522]
Adj. R-squared	0.01	0.01	0.01	0.67	0.67	0.04	0.04	0.04	0.29	0.29

Table 7
Abnormal Fee around Proxy Voting Record Date

The table presents results from an event study for the effect of proxy voting on the equity lending market in the period (-30,+30) days around 7,415 voting record dates (voting record date is t=0). The dependent variable is borrowing fee, measured in basis points per annum. *RDATE* is a dummy equal to one on the record date; likewise *RDATE* x *DMERGER* and *RDATE* x *DISS* are equal to one on the record date if there is a merger proposal or ISS opposes the proposal respectively. DMERGER and *DISS* are dummies for firms with merger proposals or proposals that ISS opposes. *HIGH UTIL* is a dummy equal to one if the stock is in the top quartile of utilization. *GOV41* is the internal governance measure from Aggarwal et al. (2010). Control variables include institutional ownership (*INST*), concentration of institutional ownership (*INST CONC*), natural log of market capitalization (*SIZE*), book to market (*BM*), stock turnover (*TURNOVER*), bid-ask spread (*SPREAD*), a small stock dummy equal to one if stock price is less than $5 (*PRICE<$5*) and cumulative five day return (*RETURN*). All regressions include monthly time-effects and robust standard errors clustered at the firm-level, presented in parentheses. *** (**,*) indicates significance at the 1% (5%, 10%) level.

	(1)	(2)	(3)	(4)	(5)	(6)
RDATE	2.544***	2.551***	2.592***	2.958***	1.447***	1.452***
	[0.395]	[0.402]	[0.395]	[0.453]	[0.386]	[0.386]
RDATE x HIGH UTIL					4.971***	4.981***
					[0.995]	[0.995]
RDATE x DMERGER		-0.841		0.436	0.473	0.463
		[2.201]		[2.648]	[2.687]	[2.688]
RDATExDMERGERxHIGH UTIL					-2.192	-2.192
					[5.248]	[5.253]
RDATE x DISS			-0.463	-1.02	-1.787	-1.779
			[1.210]	[1.316]	[1.545]	[1.544]
RDATE x DISS x HIGH UTIL					1.507	1.483
					[2.702]	[2.701]
DMERGER		7.062		-3.571	-10.301**	-9.968**
		[14.722]		[12.848]	[4.913]	[4.936]
DISS			30.903***	17.710***	0.754	1.169
			[6.727]	[6.064]	[3.761]	[3.749]
MERGER x HIGH UTIL					18.873	17.822
					[35.714]	[35.567]
ISS x HIGH UTIL					24.483	24.67
					[15.711]	[15.706]
GOV41						41.77
						[27.761]
HIGH UTIL					99.483***	99.729***
					[7.175]	[7.173]
INST				-134.103***	-122.633***	-124.610***
				[15.245]	[13.840]	[14.025]
INST CONC				268.571***	224.186***	225.340***
				[54.702]	[50.235]	[50.243]
SIZE				-7.744***	-2.118*	-3.015**
				[1.265]	[1.134]	[1.216]
BM				-6.215	-3.721	-4.078
				[5.338]	[5.024]	[5.000]
TURNOVER				22.185***	12.185***	12.168***
				[2.077]	[1.927]	[1.925]
SPREAD				-11.967***	-4.397	-4.163
				[3.492]	[3.178]	[3.149]
PRICE<$5				50.867***	51.238***	50.005***
				[10.777]	[10.003]	[10.073]
RETURN				-18.413**	-11.315	-11.226
				[7.285]	[6.920]	[6.901]
Constant	52.659***	52.412***	45.962***	136.477***	86.313***	66.336***
	[12.667]	[12.629]	[12.897]	[21.014]	[18.319]	[22.970]
Adj. R-squared	0.01	0.01	0.02	0.11	0.19	0.19

Table 8
Change in Lending Supply, Borrowing Demand and Fee around Record Date

The table presents results of univariate tests of the effects of voting record date on changes in the equity lending market. For each of changes in fee, supply, demand (on loan), and utilization the mean daily change is calculated in the period nine days prior plus record date (*RDATE* (-9, 0)) and the ten days post record date (*RDATE* (1,10)). Mean daily changes are presented for the full sample of 7,415 record dates and also those record dates involving a merger proposal or a proposal that ISS opposes. Differences in daily changes and p-values from a two-sample mean comparison test are presented below.

	All Proposals	**Mergers**	**ISS Against/MGT For**
Change in Supply			
RDATE(-9,0)	-0.569	-0.223	-0.604
RDATE(1,10)	1.417	0.818	1.753
Difference	-1.985	-1.041	-2.358
p-value (Diff=0)	0.000	0.000	0.000
Change in On Loan			
RDATE(-9,0)	1.598	1.589	1.452
RDATE(1,10)	0.387	0.553	0.633
Difference	1.211	1.036	0.820
p-value (Diff=0)	0.000	0.116	0.000
Change in Utilization			
RDATE(-9,0)	0.156	0.206	0.171
RDATE(1,10)	-0.182	-0.144	-0.193
Difference	0.338	0.350	0.365
p-value (Diff=0)	0.000	0.000	0.000
Change in Fee			
RDATE(-9,0)	0.216	0.204	0.215
RDATE(1,10)	-0.071	0.127	-0.013
Difference	0.287	0.077	0.228
p-value (Diff=0)	0.000	0.863	0.074

Table 9
Abnormal Changes in Equity Lending Supply and Borrowing Demand around Proxy Voting Record Date

The table presents results from an event study for effects of proxy voting on the equity lending market in the period (-30,+30) days around 7,415 voting record dates (voting record date is at t=0). The independent variable is daily percentage change in lending supply in the left hand panel and daily percentage change in borrowing demand (on loan) in the right hand panel. *RDATE* (-9,0) is a dummy equal to one on the record date and nine prior days; *RDATE* (1,10) is a dummy equal to one on the ten days post record date. *RDATE* (,) x *DMERGER* and *RDATE* (,) x *DISS* are equal to one on the record date if the proposal is a merger or ISS opposes the proposal, respectively. *DMERGER* and *DISS* are firm-level dummies for firms with proposals or proposals that ISS oppose. *GOV41* is the governance index from Aggarwal et al. (2010). Control variables (not shown) include institutional ownership (*INST*), concentration of institutional ownership (*INST CONC*), natural log of market capitalization (*SIZE*), book to market (*BM*), stock turnover (*TURNOVER*), bid-ask spread (*SPREAD*), a small stock dummy equal to one if stock price is less than $5 (*PRICE<$5*) and cumulative five day return (*RETURN*). All regressions include monthly time-effects and robust standard errors clustered at the firm-level, presented in parentheses. *** (**,*) indicates significance at the 1% (5%, 10%) level.

	Change in Lending Supply at time t					**Change in Borrowing Demand at time t**				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Change in Supply (t-1)										0.074***
										[0.010]
Change in On Loan (t-1)					0.009***					
					[0.001]					
Change in Fee (t-1)					0.004					-0.015***
					[0.002]					[0.003]
Change in Loan (t-1) x HIGH UTIL					0.002					0.045***
					[0.003]					[0.013]
RDATE (-9,0)	-0.645***			-0.644***	-0.646***	0.708***			0.736***	0.786***
	[0.037]			[0.043]	[0.042]	[0.056]			[0.060]	[0.060]
RDATE (1,10)	1.332***			1.296***	1.293***	-0.413***			-0.460***	-0.527***
	[0.074]			[0.074]	[0.074]	[0.049]			[0.054]	[0.054]
RDATE (-9,0) x DMERGER		-0.412**		0.278	0.288		0.353		-0.295	-0.314
		[0.183]		[0.191]	[0.191]		[0.409]		[0.418]	[0.418]
RDATE (1,10) x DMERGER		0.613***		-0.742***	-0.740***		-0.438		-0.014	0.023
		[0.168]		[0.190]	[0.190]		[0.414]		[0.415]	[0.414]
RDATE(-9,0) x DISS			-0.761***	-0.123*	-0.121*			0.501***	-0.241	-0.239
			[0.054]	[0.066]	[0.066]			[0.138]	[0.149]	[0.149]
RDATE(1,10) x DISS			1.593***	0.363	0.362			-0.187	0.252**	0.248*
			[0.270]	[0.280]	[0.280]			[0.116]	[0.128]	[0.128]
DMERGER		-0.059		0.016	0.012		0.357*		0.345*	0.359*
		[0.084]		[0.081]	[0.081]		[0.183]		[0.185]	[0.183]
DISS			-0.045**	0.004	0.003			-0.028	-0.047	0.013
			[0.022]	[0.021]	[0.021]			[0.058]	[0.059]	[0.059]
HIGH UTIL					0.008					-0.667***
					[0.031]					[0.032]

Table 10
Abnormal Changes in Fee around Proxy Voting Record Date

The table presents results from an event study for effects of proxy voting on the equity lending market in the period (-30,+30) days around 7,415 record dates (record date is at t=0). The independent variable is daily change in lending supply fee, measured in basis points per annum. *RDATE* (-9,0) is a dummy equal to one on the record date and nine prior days; *RDATE* (1,10) is a dummy equal to one on the ten days post record date. *RDATE* (,) x *DMERGER* and *RDATE* (,) x *DISS* are equal to one on the record date if the proposal is a merger or ISS opposes the proposal respectively. DMERGER and *DISS* are firm-level dummies for firms with proposals or proposals that ISS oppose. *HIGH UTIL* is a dummy equal to one if the stock is in the top quartile of equity lending utilization. *GOV41* is the internal governance measure from Aggarwal et al (2008). Control variables (not shown) include institutional ownership (*INST*), concentration of institutional ownership (*INST CONC*), changes in the natural logarithm of market capitalization (*SIZE*), book to market (*BM*), changes in stock turnover (*TURNOVER*), changes in bid-ask spread (*SPREAD*), a small stock dummy equal to one if stock price is less than $5 (*PRICE<$5*) and cumulative five day return (*RETURN*). All regressions include monthly time-effects and robust standard errors clustered at the firm-level, presented in parentheses. *** (**,*) indicates significance at the 1% (5%, 10%) level.

	(1)	(2)	(3)	(4)	(5)	(6)
Change in On Loan						0.027***
						[0.002]
Change in On Loan x HIGH UTIL						0.092***
						[0.008]
Change in Supply						0.001
						[0.002]
Change in Supply x HIGH UTIL						-0.144***
						[0.014]
RDATE (-9,0)	0.186***	0.021	0.189***	0.202***	0.042	0.020
	[0.031]	[0.030]	[0.031]	[0.033]	[0.032]	[0.032]
RDATE (1,10)	-0.047	-0.022	-0.049	-0.044	-0.022	-0.009
	[0.034]	[0.032]	[0.034]	[0.036]	[0.034]	[0.034]
RDATE (-9,0) x DMERGER			-0.161		-0.171	-0.173
			[0.301]		[0.302]	[0.299]
RDATE (1,10) x DMERGER			0.094		0.1	0.098
			[0.287]		[0.287]	[0.288]
RDATE (-9,0) x DISS				-0.102	-0.156*	-0.148
				[0.092]	[0.092]	[0.091]
RDATE (1,10) x DISS				-0.015	-0.006	-0.010
				[0.093]	[0.093]	[0.092]
RDATE (-9,0) x HIGH UTIL		0.578***			0.593***	0.519***
		[0.082]			[0.082]	[0.082]
RDATE(1,10) x HIGH UTIL		-0.083			-0.079	0.020
		[0.089]			[0.089]	[0.089]
DMERGER			0.203		0.191	0.178
			[0.129]		[0.129]	[0.129]
DISS				0.106*	0.093*	0.090*
				[0.055]	[0.053]	[0.053]
HIGH UTIL		0.084*			0.075*	0.027***
		[0.045]			[0.044]	[0.002]

Table 11
Equity Lending Market around Dividend Record Date and the Financial Crisis of 2008

The table presents results from an event study for effects of proxy voting on the equity lending market in the period (-30,+30) days around 7,415 voting record dates (record date is at t=0). The independent variables are equity lending supply, borrowing demand and borrowing fee, measured in basis points per annum. *RDATE* is a dummy equal to one on the voting record date. *HIGH UTIL* is a dummy equal to one if the stock is in the top quartile of equity lending utilization. *GOV41* is the internal governance measure from Aggarwal et al. (2010). Panel A investigates robustness of results to the inclusion of dividend record dates. *DIV DUMMY* is a dummy variable equal to one if the firm has paid a dividend in the past three years. *DIV RDATE* is a dummy variable equal to one for the 2,609 dividend record dates in the window (-30,+30) around proxy voting date. Panel B examines the equity lending market post financial crisis. *LEHMAN* is a dummy equal to one for all days in 2008 on or after 15th September, and *RDATE x LEHMAN* is dummy equal to one of the voting record date falls in this period. Control variables (not shown) include institutional ownership (*INST*), concentration of institutional ownership (*INST CONC*), the natural log of market capitalization (*SIZE*), book to market (*BM*), stock turnover (*TURNOVER*), bid-ask spread (*SPREAD*), a small stock dummy equal to one if stock price is less than $5 (*PRICE<$5*) and cumulative five day return (*RETURN*). Dividend record date regressions include monthly time-effects and financial crisis regressions include yearly time effects. All regressions include robust standard errors clustered at the firm-level, presented in parentheses. *** (**,*) indicates significance at the 1% (5%, 10%) level.

	Panel A: Dividend Record Date			**Panel B: Financial Crisis**		
	Lending Supply	Borrowing Demand	Fee	Lending Supply	Borrowing Demand	Fee
RDATE	-1.617***	0.064***	0.858**	-1.634***	0.096***	0.361
	[0.038]	[0.014]	[0.389]	[0.044]	[0.017]	[0.431]
RDATE x LEHMAN				-0.073	-0.044*	-1.067
				[0.048]	[0.026]	[0.724]
LEHMAN				-0.698**	-1.102***	-29.267***
				[0.347]	[0.198]	[8.436]
DIV DUMMY	1.160***	0.198	-0.724			
	[0.218]	[0.128]	[4.341]			
DIV RDATE	0.135**	0.638***	9.058***			
	[0.063]	[0.041]	[1.445]			
GOV41	3.803***	-2.342***	-15.603	4.210***	-2.276***	-20.234
	[1.171]	[0.696]	[27.553]	[1.182]	[0.697]	[27.588]
RDATE x HIGH UTIL			5.046***			5.059***
			[0.901]			[0.904]
HIGH UTIL			110.780***			110.216***
			[7.148]			[7.175]
Adj. R-squared	0.67	0.29	0.15	0.67	0.28	0.14