Do Shareholder Rights affect Syndicate Structure? Evidence from a Natural Experiment

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PRELIMINARY

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Abstract

Greater (Lesser) shareholder rights are likely associated with higher risk-shifting incentives, which in turn requires more (less) intensive monitoring by the lenders. We hypothesize that as shareholder rights are reduced, the need to form more concentrated (i. e. monitoring intensive) syndicates would be reduced as well. We use the passage of second generation antitakeover laws in the United States as an exogenous shock that reduced shareholder rights for the firms located in the states that adopted these laws. Using this natural experiment, we find that loan syndicates became significantly more diffused after the passage of these laws. These natural experiment results are confirmed using a large sample of bank loans made during the 1990-2007 period, where we employ G-Index of Gompers, Ishii, and Metrick (2003) as a measure of shareholder rights. We find that the lending syndicates for borrowers with low G-Index (i.e. high shareholder rights) are significantly more concentrated. Our results have important implications for understanding the link between corporate governance and the design of loan syndicate structure.

Keywords: Shareholder Rights, Syndicated Loans, Natural Experiment, Governance

JEL CLASSIFICATIONS: .

Do Shareholder Rights affect Syndicate Structure? Evidence from a Natural Experiment

1 Introduction

Syndicated loans have become a dominant form of bank lending in the United States.[1] Syndicated loans are made by multiple lenders with one of the lenders playing the role of arranging, pricing, and monitoring the loan. While this "lead arranger" plays the traditional role of an informed lender, the loan amount itself is shared with one or more "syndicate participants". Given that the lead lender in the syndicate holds less than 100 percent of the debt, the other syndicate members are concerned about the level of monitoring effort put in by the lead. The concerns about the lead lender shirking the monitoring effort are especially relevant in situations that *require* more intense monitoring (Holmstrom and Tirole (1997)). The relative concentration of syndicate structure as proxied by share of loan retained by the lead, Herfindahl index of loan shares, and size of the syndicate are likely to affect the level of monitoring effort supplied by the lead. For example, if the loan was offered by a single lender with 100 percent of the funds supplied by the the lead, the incentives to monitor the borrower are fully aligned. On the other hand, a lead with minimal share of the loan is unlikely to put forth a high level of costly and unverifiable monitoring effort. Thus, syndicate structure is an important feature in lending contract design.

Sufi (2007) reports that informationally opaque borrowers tend to have significantly more concentrated (e.g. higher share of loan retained by the lead) syndicates.[2] He argues that this result is driven by the need for greater monitoring required for such borrowers. A more concentrated syndicate reduces the moral hazard faced by a lead lender in monitoring the borrower. We conjecture that if syndicate structure reflects perceived need for borrower monitoring, the corporate governance structure of a borrower should also affect the observed syndicate structure of that borrower. Firms with greater shareholder rights are likely to have managers that are more likely to undertake risk-shifting/asset substitution type investment that shifts wealth from lenders to the shareholders. Rational syndicate participants would anticipate such behavior and would demand a more stringent level of monitoring by the lead

[1] Federal Reserve Board's Shared National Credit (SNC) program publishes an annual review of large syndicated loans. The 2010 report mentions over $ 1.2 trillion in outstanding syndicated debt.

[2] In an earlier paper, Lee and Mullineaux (2004) also show that syndicates are more concentrated when borrowers are informationally opaque and when there is higher risk of default. Also, Hallak and Schure (2011) show that the "large lenders" in the lending syndicates earn a "return premium", which is positively affected by the likelihood of future liquidity problems of the borrower.

lender. Since the monitoring effort is unobservable, a more concentrated syndicate will be a natural contracting device for syndicate members to achieve better congruence in their and the lead lender's incentives. A potential problem in examining corporate governance is its endogeneity; firms with greater or lesser shareholder rights may differ on other unobservable characteristics which may also affect the syndicate structure. This makes it difficult to attribute the changes in syndicate structure to changes in shareholder rights with certainty. We address this issue by using the passage of second generation of antitakeover (also referred to as Business Combination) laws as an exogenous shock to the shareholder rights. In mid-to-late 1980's many states adopted these laws that made it significantly more difficult to launch a hostile takeover attempt on the firms incorporated in those states. We argue that this exogenous reduction in shareholder rights should reduce the risk-shifting/asset substitution incentives for the managers of firms based in states that enacted such laws. To paraphrase Giroud and Mueller (2010), passage of anitakeover laws increases managerial slack making them less inclined to undertake risk-shifting investments.[3] This, in turn, implies that observed concentration of syndicate would likely be lower as syndicate participants would be less concerned about monitoring by the lead lender.

We test this prediction using a sample of syndicated loans made during the period when these laws were enacted. We find that, following the adoption of antitakeover laws, the fraction of loan retained by the lead bank as well as Herfindahl index of loan share is reduced significantly. Reflecting the less concentrated syndicate, the number of lenders in the syndicate also increase significantly following the enactment of these laws. After controlling for firm characteristics, we find that the share retained by the lead bank is 3.5 percent lower in the post-enactment period. Given that average fraction of loan retained during this period was 32.17 percent, the reduction in shareholder rights due to adoption of antitakeover laws reflects an economically significant reduction in syndicate concentration. These results continue to hold across multiple specifications and different econometric methodologies. For example, when we use the Herfindahl index of loan share by all syndicate members as an alternative measure of syndicate concentration, the Herfindahl index is reduced by 238 in the post-law enactment period compared to the pre-enactment period a decrease of almost 10 percent from the sample average of 2,747. Using the number of lenders in the syndicate as yet another alternative measure of syndicate concentration yields similar results. Given that both loan share of the lead and Herfindahl index are likely to have discrete values within a range (e.g. lead share can only be between 0 and 100), we reestimate our specification using

[3]This argument is consistent with Bertrand and Mullainathan (2003) who argue that reduction in shareholder rights is associated with managers preferring a "quite life" of avoiding difficult operational decisions.

a generalized linear model (GLM) as suggested by Papke and Wooldridge (1996). For the model using number of lenders as the syndicate structure measure we estimate a poisson regression model. Theses alternative econometric specifications yield qualitatively similar results. Finally, the constitutional status of the state business combination laws was considered uncertain till the US Supreme Court's ruling in 1987. We redefine our year of law enactment as 1987 for the states that adopted these laws before the supreme court's ruling. We continue to find a significant association between reduction of shareholder rights and decrease in lending syndicate. Finally, we address the issue of why some loans are syndicated at all. After all, a loan that is not syndicated reflects the corner solution to a contract design problem. All loans that are done by a sole lender would appear to have characteristics (including the shareholder rights of the borrower) that may make syndication of loan to that borrower too difficult. If shareholder rights are associated with syndicate structure generally, we should expect the likelihood of a loan being made by a sole lender go down once the antitakeover laws are adopted by the state in which the borrower is incorporated. Holding all else equal, we find that probability of obtaining a loan from a sole lender (i.e. a non-syndicated loan) reduces by four percent.

We complement the natural experiment results by conducting traditional regression analyses to estimate the effect of shareholder rights on loan syndicate structure over the 1990-2007 sample period. In these tests we use the G-Index from Gompers, Ishii and Metrick (2003) as a measure of shareholder rights for a firm. We find that after controlling for firm and loan characteristics, an increase in G-Index (i.e. reduction in shareholder rights) is related to a significant decrease in syndicate concentration. For example, for a borrower with shareholder right higher than the sample median, the share of loan retained by the lead lender is two percent higher compared to the lead's share of similar borrower with less than median shareholder rights. These results continue to obtain when we replace the G-Index with a dummy variables that represents a "Classified board with prohibitions on voting". We next examine potential channels via which the corporate governance of a borrower may affect the syndicate structure chosen by its lenders. As discussed above higher shareholder rights should provide a better alignment between managers and shareholders which is likely to increase the risk of asset-substitution for the creditors of such a firm (Jensen and Meckling, 1976). Since equity can be viewed as a call option on a firm's assets, shareholders (or a manager closely aligned with shareholders) have strong incentives to pursue high risk investments that increase the value of the equity but decreases the value of debt. This is especially critical for firms that face financial distress and where the equity resembles a deep

out of money call option. We argue that lending to such firms is particularly fraught with the risk of asset-substitution and would require much higher level of monitoring compared to firms that are not likely to face financial distress. Thus, those high shareholder rights borrowers that also have a high default probability are significantly more likely to be associated with more concentrated lending syndicates. We refer to this as "Asset-Substitution" hypothesis of syndicate structure. Using Altman Z-score as a proxy for financial distress we find that distressed borrowers (Z score less than 1.81) are associated with significantly more concentrated syndicates if the borrower has high shareholder rights. An additional mechanism via which shareholders can transfer wealth from lenders to themselves by increasing leverage. Cremers, Nair and Wei (2007) describe the potential tension inherent in increasing shareholder rights and the effect it may have on a firm's lenders. *"However, policies that benefit stockholders will not necessarily benefit bondholders. In particular, different governance mechanisms available to shareholders can have different consequences for bondholders. For example, acquisitions and disciplinary takeovers can benefit target shareholders but also hurt the target bondholders by adding more debt to the firm ... (p.1359-60).*" Klock, Mansi and Maxwell (2005) and Chava, Livdan, and Purnanandam (2008) argue that better shareholder rights are synonymous with fewer anti-takeover provisions. One big concern for an existing lender is the possibility of radical change in capital structure if the borrower is acquired. Takeover (or even the threat of a takeover) is frequently associated with major recapitalization of the acquired firm in form of increased leverage, debt for equity swaps, divestitures of excess cash via special dividends.[4] The increase in leverage due to takeover of the borrower increases the risk of default for its existing lenders. This concern is especially relevant for a syndicate with multiple banks. If more intense monitoring by the lead bank can mitigate these effects, one should expect a firm with higher risk of being acquired (i.e. low G-Index firms) to be associated with lending syndicate that is significantly more concentrated to ensure monitoring against such an occurrence. A number of existing studies have shown that the bond yields of firms with higher shareholder rights are significantly higher than those of borrowers with low shareholder rights (see for example Cremers, Nair and Wei, 2007). The results for bank loans are similar to that of the bond markets - Chava et al. (2008) find that the higher shareholder rights firms are charged significantly higher loan rates. They provide additional evidence showing that the increase in loan rates is limited to those borrowers who in addition to having high shareholder rights also had low leverage at the time of loan origination. They argue that these firms are most at risk of being recapitalized with

[4]Studies that show increase in leverage for the target firm include Kim and McConnell (1977), and Ghosh and Jain (2000).

higher debt levels and therefore are required to pay a higher interest rate. We refer to this as "Borrower Recapitalization" hypothesis of syndicate structure. Our tests fail to provide significant support for this prediction as the syndicate structure is statistically similar for high and low shareholder rights for low leverage and high leverage borrowers. We speculate that the risk of recapitalization is likely to be fully captured by a loan's pricing terms while the risk of asset substitution is more evident in the loan syndicate structure. In fact, in our tests of sole lender (non-syndicated loans) we find that higher shareholder rights affect the syndicate structure significantly if such firms have low leverage. Thus, in absence of availability to change syndicate structure, shareholder rights do affect syndicate structure via the recapitalization channel. Similar to our natural experiment we find that probability of obtaining a loan from a sole lender (i.e. non-syndicated loan) is higher if the borrower has high level of shareholder rights (low level of G-Index)

Our paper seeks to combine two strands of literature that have been evolving rapidly in the last decade. The first strand of work examines the syndicate loan market where multiple lenders come together to offer loans to a borrower. The second body of work has looked at the implications of corporate governance (especially the level of shareholder rights) on various firm attributes such as valuation and cost of borrowed funds. A common theme in both these streams is the agency problem between various contracting parties. Better shareholder rights mitigate the agency problem between managers and shareholders. Gompers, Ishii and Metrick (2003) use this argument to explain their findings that firms with higher shareholder rights are characterized by higher stock market returns as well as higher valuation. The agency problem in loan syndication is of somewhat different nature as it manifests itself among the multiple lenders who depend on the lead lender to carry out the monitoring of the borrower. Sufi (2007) and Lee and Mullineaux (2004) report that syndicate structure is significantly related to borrower opacity. We build on the central findings of these studies by arguing that since information opacity of a borrower affects the lending syndicate structure, it is likely that potential syndicate members also take into account the *governance structure* of the borrowing firm when the syndicate is formed. The paper most closely related to ours is by Lin, Ma, Malatesta, and Xuan (2011), who investigate the impact of ownership structure of borrowers across different countries on syndicate structure. Their key result shows that ownership structure as reflected in divergence in cashflow and control rights has a significant effect on lending syndicate structure. These findings are related to exploitation of lenders by a dominant shareholder. The issue of extracting private benefits via control affects both the lenders as well as minority shareholders. Our paper differs from their approach in the

sense we focus on broader shareholder rights including those offering protection to minority shareholders. Thus, our paper brings into focus the wider conflict of interest between lenders and managers aligned with all shareholders rather than a single dominant shareholder.

The remainder of the paper is organized as follows. Section 2 describes a simple stylized model that we use to motivate the empirical predictions based on existing theoretical work. Section 3 describes our data and our sample selection process. Our methodology and major results are presented in Section 4. We conclude in Section 5.

2 Development of Empirical Hypotheses

The purpose of this section is to derive precise empirical predictions to guide the empirical tests. It is well known from the literature (e.g., Holmstrom and Tirole (1997)) that firms with limited public information require due diligence and monitoring by an "informed" lender before "uninformed" lenders invest in the firm. We observe that this due diligence is even more critical for firms that have greater shareholder rights. The reason is that shareholder friendly firms are more likely (relative to less shareholder friendly firms) to indulge in risk-shifting actions benefiting equity at the expense of debtholders. Since an informed lender's monitoring and due diligence effort is unobservable, such a lender must retain a larger financial stake in the borrowing firm to form a viable lending syndicate. We formalize this intuition to derive our empirical predictions.

2.1 Model setup

we assume that all agents are risk neutral and the riskless interest rate is zero. The economy has a single firm managed on behalf of equity investors and the firm needs to borrow to finance an investment opportunity that requires I dollars. The loan may be contracted from a lending syndicate with the lead lender retaining a share $\alpha \in (0, 1]$ while the participants provide the balance $(1 - \alpha)$ share of the loan. If $\alpha = 1$ the loan is provided by a sole lender and thus is not a syndicated loan.

There are three dates in the model, $t = 0, 1, 2$. The firm contacts debt investors at the initial date 0 to finance its project. The debt matures at date 2 which is also when the project pay-offs are realized. The assets purchased at date 0 can be liquidated at date 1 for value L where $L < I$. There is no liquidation value at date 2. If the firm is not liquidated, the project pay-offs are realized at date 2 and lenders are paid either the promised face amount or the entire pay-off in case the realized pay-offs are not sufficient to repay the face value of

the debt.

The firms project is either good or bad. A good project is always successful and returns G with complete certainty. A bad project is successful with probability $\pi \in [0, 1]$ and returns B if successful and 0 otherwise. We make the following assumption:

Assumption 1: $\pi\ B < L < I < G < B$

Assumption 1 states that that the good project has a positive NPV, while the bad project has a negative NPV. Further, if known, liquidation is preferable to continuation of the risky project.

As of date 0, the type of the project undertaken by the firm is not yet determined. The project type is realized and becomes known to the firm at date 1. The project is bad with probability $p \in [0, 1]$ and good otherwise, for a type p firm. The manufacturing policy or management style (also termed as the p-policy) followed by a shareholder friendly firm is more likely to result in the bad project (but more preferable to equity holders who realize the higher payoff if successful and walkaway due to limited liability if unsuccessful) realized at date 1. We thus interpret p as the degree of shareholder rights in the model.

The firm has no money of its own and has to borrow from financiers to invest in the project. There are two types of lenders (informed and uniformed) in the date 0 market for credit. Credit markets are assumed to be competitive.

- Banks/Informed/Relationship lenders enter the market at date 0 and date 1 to acquire information and make loans. A bank which makes a loan to a firm at date 0 can obtain information about it by monitoring its activities (more on this below). Much of the information obtained is not verifiable or cannot be credibly communicated to a third party (e.g.) a court.

- Uninformed/Loan syndicate participant investors lend at date 0 and return at date 2 for their promised payments. We assume that these investors do not monitor the firm, by invoking the standard argument that dispersion of security holders generates either free rider problems or a wasteful multiplication of monitoring costs as in Diamond (1984).

The firm makes an investment I at date 0 and its type p is private information on this date. The bank does not know the borrower's type and in turn chooses to monitor at cost c. Then,

at date 1, it will learn the true project type realized by the firm (Good or Bad) and can choose liquidate the bad project and realize L. We assume that it is not possible to write state contingent contracts on the type of project investment, or state realized. Further, we allow only debt contracts, an assumption justified by appealing to the costly state verification technology in Gale and Hellwig (1985). Since any debt contract can be expressed as a linear combination of pure discount debt contracts, we consider only the latter, in this model, to keep matters simple. The discount debt contract involves a borrowing I at date 0 and a single repayment D at date 2. Thus, the face value of debt is D

While the NPV of the bad project is negative, a borrower is inclined to shift risk into and invest in such a project to transfer wealth from the lenders. We ensure risk-shifting by assuming the following:

Assumption 2: $(G - I) \ < \ \pi \ (B - I)$

Assumption 2 states that that the borrower prefers the bad project to the good one, if financed by outside investors.

In the case of a single informed lender (the bank) it is clear that the bank will monitor the firm at a cost c to learn the project type at date 1. Since $\pi \ D < L$.(D has to be less than B, the lender payoff when the risky project succeeds and $\pi \ B < L$ by assumption), it pays off for the lender to invest in monitoring and due diligence. This will enable the lender to liquidate the risky project if undertaken, at $t = 1$.

We now turn to syndicated lending. For simplicity, we consider one lead lender with share of loan αI and one syndicate member with share (1-α)I. We evaluate two cases : No monitoring by the lead (lead lender moral hazard since they own only a fraction of the loan but have to pay the full cost of monitoring) and monitoring by the lead bank.

No monitoring by the lead bank : The break even conditions for lending for the lead and the syndicate member imply,

$$(p \ \pi + (1 - p)) \ D_{lead} = \alpha \ I \Rightarrow D_{lead} = \alpha \ \frac{I}{(p \ \pi + (1 - p))} \quad and$$

$$(p\ \pi + (1-p))\ D_{syndicate} = (1-\alpha)\ I \Rightarrow D_{syndicate} = (1-\alpha)\ \frac{I}{(p\ \pi + (1-p))}$$

Monitoring by the lead bank : The break even conditions for lending for the lead and the syndicate member imply,

$$p\ \alpha\ L + (1-p)\ D_{lead} - c = \alpha\ I \Rightarrow D_{lead} = \frac{\alpha\ (I - pL) + c}{(1-p)} \quad and$$

$$p\ (1-\alpha)\ L) + (1-p))\ D_{syndicate} = (1-\alpha)\ I \Rightarrow D_{syndicate} = (1-\alpha)\ \frac{I - pL}{(1-p)}$$

The lead lender will commit to monitor (incurring cost c) and liquidate the firm at t=1 if the payoff from this action is greater than shirking monitoring. Of course, ex-ante the contract is set as if the lead is committed to monitoring. This implies

$$\pi\ D_{lead} \leq \alpha\ L \Rightarrow$$

$$\alpha\ \geq\ \alpha^* = \frac{\pi\ c}{(L(1-p) - \pi(I - pL))} \tag{1}$$

This result implies that the syndicate member needs a minimum commitment of α^* from the lead to ensure that the latter will monitor and conduct due diligence on the firm. Thus, syndicate structure is a function of the primitives of the model including shareholder rights and the cost of monitoring. We derive the following testable implications from the model:

Empirical Implication 1:

$$\frac{\partial \alpha^*}{\partial p}\ =\ \frac{\pi(1-\pi)Lc}{(L(1-p) - \pi(I - pL))^2}\ >\ 0$$

This result implies that as the firms have greater shareholder rights, the lead lender share in the syndicate increases. The intuition is that greater shareholder rights firms tend to pursue riskier projects that benefit shareholders at the expense of creditors. Thus, the lead lender is required to exert greater due diligence in monitoring to prevent syndicate moral hazard. The result says that in order to provide the lead lender with sufficient monitoring incentives, syndicates must be more concentrated as shareholder rights increase.

We can rewrite equation (1), the viable condition for syndicated lending, by rearranging it

as

$$p \ \leq \ p^* = 1 - \pi \ \frac{I + c - L}{L(1 - \pi)} \tag{2}$$

This leads to our next empirical implication.

Empirical Implication 2: For firms below a critical level of shareholder rights p*, syndicated lending is feasible. Firms above p* have to resort to sole lender loans. The intuition for this implication is similar to that of implication 1. If firms are too prone to risk shifting (too shareholder friendly above a certain threshold), the lead needs to hold the entire share of the loan in order as a commitment device to monitor the firm.

Empirical Implication 3:

$$\frac{\partial \alpha^*}{\partial c} \ = \ \frac{\pi}{(L(1-p) - \pi(I - pL))} \ > \ 0$$

This result is not unique to this set up and first highlighted by Holmstrom and Tirole (1997). Opaque firms need greater monitoring efforts by the lead lender and in the presence of syndicate moral hazard such efforts can be accomplished by the lead having adequate skin in the game. We test these empirical implications in the data using a combination of natural experiments that exogenously shifted shareholder rights and panel regressions using empirical proxies for shareholder rights.

3 Data and Sample Selection

We employ three major sources of data to carry out the empirical tests in this paper. These are Dealscan database of bank loans maintained by the Loan Pricing Corporation (henceforth, LPC), data on corporate shareholder rights from RiskMetrics (formerly Investor Responsibility Research Center, IRRC), and Compustat. Additionally we use passage of second generation antitakeover laws as an exogenous shock to the shareholder rights for conducting our natural experiment. The data on year in which such laws were enacted by different states is obtained from Betrand and Mullainathan (2003) and is described in Appendix B. Since syndicate structure is the primary economic variable of interest in this study, we obtain information on loan syndicates from the Dealscan database maintained by the Loan Pricing Corporation (henceforth, LPC). The LPC Dealscan database collects the data on loans made to large (mostly publicly traded) U.S. firms. In the last decade it has become the

primary data source for studies on bank financing in the U.S..[5] Following Sufi (2007) we use the percent of total loan held by the lead bank and the concentration of syndicate based on Herfindahl index as our two primary measures of syndicate structure. In addition, we also use the number of members in the loan syndicate as another measure of syndicate structure. We calculate the Herfindahl index by squaring the share of loan for each syndicate member and summing up the squared shares for all the syndicate lenders. Thus, the Herfindahl index can range from nearly 0 (when a large number of banks hold equal and small share of the loan) to almost 10,000 (when one syndicate member holds almost all of the loan).

For our natural experiment tests we create two samples. First sample that we refer to as "unrestricted sample" consists of all loan facilities made during the 1986 to 1991 period. As reported in appendix B almost all states that eventually adopted antitakeover laws had passed these laws in mid-to-late 1980s (only exception being Texas and Iowa both of which enacted these laws in 1997). Our approach of focusing on this period is similar to the approach taken by Cheng, Nagar, and Rajan (2004) and reflects our belief that any impact on loan syndicate structure caused by shock to shareholder rights is likely to be concentrated in this period. Panel A of table 1 provides the sample description. The final sample consists of 1,748 loan facilities of which 1709 were obtained by firms incorporated in states that passed antitakeover laws and 39 were by firms in states that have never passed such laws. Of the 1,709 facilities taken out by firms from states enacting antitakeover laws, 536 were obtained before the laws were passed and 1,173 were obtained after the passage of laws. Similar to studies by Bertrand and Mullinathan (2003) and Cheng, Nagar and Rajan (2004) Delaware incorporated states form a significant proportion of our sample. The second sample is defined more narrowly and we refer to it as "restricted sample". For every state that passed the antitakeover law, we concentrate on the seven year window surrounding the passage of law (three years before and three years after the year of law enactment). Within the states that passed antitakeover laws, we only retain those firms that had borrowed at least one loan facility both before as well as after the passage of law. These restrictions are an alternative way to control for firm-fixed effects. Since only those firms that appear in both pre *and* post antitakeover period, any time invariant firm level effects are likely to cancel out. The states that never passed the law provide additional control sample and we include all the loan facilities contracted by firms incorporated in these states in the restricted sample as well. The details of restricted sample are presented in Panel B of table 2. This sample consists of

[5]LPC collects information on bank loans to large U.S. corporations (and more recently on international bank loans as well) primarily through self-reporting by lenders, SEC filings, and its staff reporters. Among recent studies based on LPC data are Bharath et al. (2011), and Ivashina (2009).

557 loan facilities, 195 of which were obtained in the period before the law was adopted and 235 from post-law adoption period. An additional 127 facilities from firms incorporated in states that never passed antitakeover laws are also included.

Table 2 reports the descriptive statistics of our three dependent variables used to measure loan syndicate structure. Appendix A provides definition and construction methodology for the main variables we employ in our tests. In the larger unrestricted sample (Panel A, table 2), the average (median) fraction of the loan retained by the lead lender is 32.17%(29.76%). Panel A of table 2 also reports distribution of Herfindahl index as well as number of lenders in the syndicate. The median syndicate size comprises of five lenders. We also report descriptive statistics for a few loan and firm characteristics. Almost 83 percent of the firms in the unrestricted sample do not have a rating from S&P and following Sufi (2007) we classify such firms as opaque. Median firm has 569 million in book value of assets, while the median loan facility size is 103 million. Panel B reports descriptive statistics for the restricted sample. The sample distribution of the restricted sample suggests that it consists of some what larger firms and larger loan facilities. For example the median reported assets are 747 million $ and median loan facility is 119 million $. The syndicate also appears to be less concentrated as the median number of lenders is seven.

In our regression tests of relationship between loan syndicate structure and G-index, our sample period is 1990-2007. LPC databases comprises of 70,008 individual loan facilities extended to non-financial U.S. corporations over this period. We merge this data with the IRRC (now owned by RiskMetrics) corporate governance database. IRRC had historically published 24 distinct types of corporate governance provisions for individual firms. These publications occurred in 1990, 1993, 1995, 1998, 2000, 2002, 2004, and 2006. The universe of firms covered by IRRC largely comprised of S&P 500 in early years and was expanded extensively in 1998. The database reports the G-Index as calculated by Gompers et al. (2003). Briefly, they examine 24 corporate-governance provisions and add one point for every provision that *reduces* shareholder rights. Thus, a high value of G-Index corresponds to lower level of shareholder rights. Matching our loan facilities with the IRRC database reduces our sample to 11,932 loan facilities. Of these, 3,555 involved more than one lender and thus meet the definition of a syndicated loan and these facilities also had details on loan share held by the lead, share of all syndicate members as well as the number of lenders in the syndicate. While the LPC database allows us gather data on loan syndicate structure, it does not provide details about the borrower characteristics. We hand-match the borrower names in the LPC database with the Compustat database following the procedure outlined

in Bharath et al. (2007). We then use Compustat to extract data on accounting variables for the given borrower. This resulted in a matched sample of 3,223 loan facilities for which we were able to obtain data from Compustat. To ensure that we only use accounting information that is publicly available at the time of a loan we employed the following procedure: For those loans made in calendar year *t*, if the loan activation date is 6 months or later than the fiscal year ending month in calendar year *t*, we use the data of that fiscal year. If the loan activation date is less than 6 months after the fiscal year ending month, we use the data from the fiscal year ending in calendar year *t-1*. The sample selection process is outlined in Table 6, Panel A.

Panel B of table 6 reports the summary statistics for the main loan and borrower characteristics of our regression sample.[6] Appendix A describes the construction methodology for all the variables. The average book value of assets for the borrowers (expressed in constant year 2000 dollars) in our sample is $5.7 billion and median is $1.98 billion. Thus, our sample comprises of larger firms compared to the sample in Sufi (2007), who reports average book value of assets as $3.3 billion (median $0.6 billion). This difference arises largely due to our requirement that borrower be covered by IRRC. Chava et al. (2008), who also require IRRC coverage, report an average loan size of $421 million (median $200 million) which is very similar to average facility amount of $411 million (median $233 million) for our sample. Chava et al. transform the G-Index by subtracting the G-Index out of 24. They report an average value for their transformed index of 14.47 which is almost identical to our shareholder rights index average of 9.4 (equivalent to 14.6 when transformed to 24-GIndex) for our sample. In terms of syndicate structure, Chava et al. only report the average number of lenders in the syndicate as 10.56 which is somewhat smaller than 12.8 lenders per facility in our sample. This is partly driven by our sample selection methodology that only includes those facilities where it was clear that more than one lender were involved. The requirement that our sample be covered by IRRC results in our sample being biased towards larger firms, who in turn are likely to contract larger loan facilities. Thus it is likely that our sample would be marked by loan syndicates that are larger, are less concentrated, and are characterized by a lower fraction of loan being held by the lead lender. Comparing our sample attributes to Sufi (2007) bears out this conjecture. Our sample syndicate has an average Herfindahl index of 1,592 compared to 2,383 for his sample. Similarly the average share held by the lead is 20 percent in our sample compared to 28.5 percent in his sample. The mean interest rate charged for the loan facilities, all in drawn spread (AISD) is 103 basis points (bps) while the

[6]The data is winsorized at the one percent and 99 percent level to address the problem of extreme outliers.

median AISD is 75 bps in our sample. These are broadly similar to average AISD of 117 bps (median 75 bps) reported by Chava et al. The average modified Altman Z score for our sample (1.87) and Chava et al. (1.91) are also broadly similar. The average book leverage in our sample is 0.28 compared to 0.29 in Chava et al. Thus, our sample appears to have similar characteristics to the one employed by Chava et al. but appears to be different from the sample employed by Sufi (2007).

It is also worth comparing these characteristics with the sample used for the natural experiment. Since the antitakover laws were passed in mid-to-late 1980s, the natural experiment sample is largely drawn from 1986-1991 period. In contrast, the sample for regression analysis is driven by availability of shareholder rights index and is thus drawn largely from 1990 to 2007 period. The more recent nature of regression sample is evident by the fact that average loan size, borrower size as well as syndicate size are larger than that reported in table 1. The average fraction of loan retained by the lead lender is 20%, while median syndicate consists of 11 lenders. The different profile of this sample allows us to use the results from this sample as additional support for our natural experiment results.

Table 2 reports the key sample summary statistics for both the borrowers as well as for the loan syndicate structure.

4 Methodology and Results

4.1 Evidence from the natural experiment

The key empirical challenge in linking shareholder rights (governance) to syndicate structure is that firms with better and worse governance probably also differ on other, unobservable, dimensions. Comparing syndicate structure outcomes between firms with good and bad governance may capture the effect of these unobservable differences rather than the effect of governance. Similarly, changes in governance within a firm may be accompanied by other unobservable changes. We attempt to deal with this endogeneity problem by using the passage of antitakeover laws to measure changes in shareholder rights (i.e.) corporate governance. These laws, passed by many states at different points in time, restricted hostile takeovers of firms incorporated in the legislating states and thus curbing a mechanism of discipline through corporate control that would benefit shareholders. These laws avoid the endogeneity problem to the extent that they are passed by states and are not endogenously driven by firm specific conditions and are not passed on a firm-by-firm basis.

As discussed by Cheng, Nagar and Rajan (2005), in 1982, the Supreme Court dismissed the first generation of antitakeover laws in 37 states on the grounds of excessive jurisdictional reach (Edgar v. Mite Corp.). Subsequently, in the mid-to-late 1980s, several states introduced the next or the second generation of antitakeover statutes. In 1987, the Supreme Court surprisingly ruled that these were enforceable so long as they did not prevent compliance with the 1968 Williams Act (Dynamics v. CTS). This decision triggered a third generation of even more stringent state laws regulating takeovers around the country.

The most stringent of the second- and third-generation laws were known as business combination laws. These laws prohibit a bidder from takeover activities for a specified number of years (three to five years) unless the target board votes otherwise. Even after the passage of the moratorium or the freeze-out period, the bidder needs to satisfy fair price provisions (described next). The second-generation antitakeover laws also included fair price (FP) and control share acquisition (CS) provisions. Fair price laws require the acquirer to pay a fair price for shares purchased (calculated as the maximum the acquirer paid for shares acquired in the preceding two-year period, for example) for takeover purposes thus restricting takeover activity by making the acquirer pay a high price for shares and impeding two-tier offers. Finally, control share acquisition laws provide the shares not held by the acquirer the right to decide whether the acquirer's shares may vote on the takeover after the acquirer delivers a statement disclosing his identity, intent, and terms of acquisition. Appendix B provides the details of these legislation and date of adoption state wise across the U.S.

As described earlier, we use the passage of antitakeover law by a state as an exogenous shock to the level of shareholder rights of the firms incorporated in that state. A simple way to examine if enactment of these laws has an impact on the loan syndicate of these borrower is to look at the evolution of syndicate structure in the pre and post law enactment period. Figure 1 provides a simple univariate comparison of the three syndicate structure measures that we employ in this paper. The average share of the loan retained by the lead in the pre-enactment period was 30% and was 25.6% in the post enactment period. This difference is significant at the five percent level (t- value of -2.49). Repeating this test for Herfindahl index of loan share as well as for number of banks in the syndicate yields similar results. Of course, these tests do not control for firm and borrower characteristics but they are still informative.

We estimate a more formal specification based on difference-in-difference approach to

test if shareholder rights are related to loan syndicate structure. Our basic regression model is:

$$(Syndicate\ Structure)_{ist} = \alpha_s + \alpha_t + \beta(After)_{st} + \mathbf{X}_{ist}\Gamma + \epsilon_{ist} \tag{3}$$

where i indexes the loan facility, s indexes the state of incorporation of the borrower, t indexes time, *Syndicate Structure* is the main dependent variable that we measure in three different ways.

We find that, following the adoption of antitakeover laws, the fraction of loan retained by the lead bank as well as Herfindahl index of loan share is reduced significantly. Reflecting the less concentrated syndicate, the number of lenders in the syndicate also increases significantly following the enactment of these laws. After controlling for firm characteristics, we find that the share retained by the lead bank is 3.5 percent lower in the post-enactment period. Given that average fraction of loan retained during this period was 32.17 percent, the reduction in shareholder rights due to adoption of antitakeover laws reflects an economically significant reduction in syndicate concentration. These results continue to hold across multiple specifications and different econometric methodologies. For example, when we use the Herfindahl index of loan share by all syndicate members as an alternative measure of syndicate concentration, the Herfindahl index is reduced by 238 in the post-law enactment period compared to the pre-enactment period a decrease of almost 10 percent from the sample average of 2,747. Using the number of lenders in the syndicate as yet another alternative measure of syndicate concentration yields similar results. Given that both loan share of the lead and Herfindahl index are likely to have discreet values within a range (e.g. lead share can only be between 0 and 100), we reestimate our specification using a generalized linear model (GLM) as suggested by Papke and Wooldridge (1996). For the model using number of lenders as the syndicate structure measure we estimate a poisson regression model. Theses alternative econometric specifications yield qualitatively similar results. Finally, the constitutional status of the state business combination laws was considered uncertain till the US Supreme Court's ruling in 1987. We redefine our year of law enactment as 1987 for the states that adopted these laws before the supreme court's ruling. We continue to find a significant association between reduction of shareholder rights and decrease in lending syndicate. Finally, we address the issue of why some loans are syndicated at all. After all, a loan that is not syndicated reflects the corner solution to a hypothetical contract design problem. All loans that are done by a sole lender would appear to have characteristics (including the shareholder rights of the borrower) that may make syndication of loan to that borrower too

difficult. If shareholder rights are associated with syndicate structure generally, we should expect the likelihood of a loan being made by a sole lender go down once the antitakeover laws are adopted by the state in which the borrower is incorporated. Holding all else equal, we find that probability of obtaining a loan from a sole lender (i.e. a non-syndicated loan) reduces by four percent.

4.2 Tests based on Shareholder Rights Index (G-Index)

4.2.1 Univariate Tests

To examine if shareholder rights affect loan syndicate structure, we first examine how syndicate structure and other borrower characteristics differ for borrowers that have different shareholder rights. We divide our entire sample into two subsamples. If the loan is obtained by a firm with a GIndex that is higher than the sample median of 9, it is classified as HIGH GIndex (low shareholder rights) group. If the borrower has a GIndex of less than the sample median we classify it as LOW GIndex (high shareholder rights) group. An intuitive test for our hypotheses is to compare the syndicate structure across these two groups and to see if lending syndicates are significantly different across these two groups. Panel C of Table 6 reports the key loan syndicate and borrower characteristics for the HIGH and LOW Gindex (high and low shareholder rights) borrowers. In the first column, we report key characteristics for loans by the HIGH Gindex (low shareholder rights) borrowers. The second column provides the same information for the borrowers with LOW GIndex (high shareholder rights). These characteristics include fraction of loan retained by the lead lender, Herfindahl index of the syndicate structure, and the size of the syndicate. We also report key loan characteristics such as loan facility amount, and maturity. Finally, we provide key borrower characteristics for both groups that include borrower size, if the borrower is distressed (Altman Z-score less than 1.81), borrower opacity (dummy variable that equals 1 if the borrower lacks a S&P credit rating), and leverage ratio. The last column reports the differences in the mean values for all of these characteristics between the two groups. The results of univariate tests of differences in means provide strong evidence that the lending syndicate for the borrowers with low GIndex (high shareholder rights) loans is significantly more concentrated. Comparing the fraction of the loan retained by the lead bank (intuitively the simplest measure of syndicate concentration) for a HIGH GIndex borrowers to a LOW GIndex rights borrower, we find that the average lead share is 4.4 percent lower (18.8% versus 22.2%) for HIGH GIndex borrowers. Thus, a lead lender, on average, retains almost

20% higher share in a loan to a LOW Gindex (high shareholder rights) borrower compared to a HIGH GIndex (low shareholder rights) borrower. This difference is significant at the one percent level (t-value of 6.45). The average Herfindahl index for a loan syndicate to a LOW GIndex borrower is 1,744 versus 1,491 for a HIGH GIndex borrower. This Herfindahl index is over 20% higher for LOW GIndex borrowers and this difference is significant at the one percent level (t-value of 5.23). An additional measure of syndicate concentration is syndicate size as measured by number of lenders in the syndicate. Comparing this for HIGH and LOW GIndex borrowers provides similar results. On average, the syndicate size for LOW GIndex borrower (11.77) is significantly smaller (at the one percent level) compared to the average syndicate size of HIGH GIndex borrower (13.56). Thus, the effect of corporate governance on syndicate structure documented in these univariate tests appears to be significant both statistically and economically.

While the univariate tests provide preliminary evidence that the lending syndicate structure for the borrowers with high share-holder rights is significantly more concentrated, these results do not take into account potentially significant differences in loan as well as borrower characteristics between the high and the low shareholder rights borrower groups. It is likely that the borrowers with high shareholder rights have fundamentally different characteristics. For example, such borrowers may be contracting smaller loan amounts. This in turn may explain the smaller syndicates observed for these borrowers. To determine if high shareholder rights borrowers are associated with more concentrated lending syndicates, we must first test whether the characteristics of the two borrower groups are different, and whether these differences fully explain the difference observed in syndicate structure across these two groups. We compare the loan and borrower characteristics in the two groups. The results are also reported in Panel C of Table 6. The average loan facility size of a LOW GIndex borrower ($ 372 million) is smaller than the average size of loan to a HIGH GIndex borrower ($436 million). This difference in loan facility amount is significant at the one percent level (t- value of 3.85). Also the LOW GIndex borrowers are significantly more likely to lack a S&P credit rating compared to HIGH GIndex borrowers (40% versus 28%). Again this difference is significant at the one percent level. Financial distress as measured by Altman-Z score is more likely for the HIGH GIndex borrower compared to LOW Gindex borrowers. Thus, there appear to be systematic differences in key borrower and loan characteristics for borrowers with significantly different levels of shareholder rights.

While the results of univariate tests suggest that better corporate governance (LOW GIndex) may be associated with more concentrated lending syndicates for such borrowers,

these results also show that some of the key borrower and loan characteristics that may influence syndicate structure are systematically different across the high and low shareholder rights borrowers. Consequently, to better distinguish the effect of corporate governance on syndicate structure we employ multivariate tests. These are described in more detail next.

4.2.2 Multivariate Tests

To test how shareholder rights may affect syndicate structure, we estimate three regression models using the fraction retained by the lead bank, the Herfindahl index, and the natural log of (1+number of lenders) as the dependent variables. The choice of these proxies for syndicate structure is motivated by their use by Sufi (2007). To test how the variation in shareholder rights provisions affects syndicate structure, we test a general specification described below:

$$(Syndicate\ Structure)_i \quad = \quad \alpha + (GIndex)_i\lambda + Opaque_i\gamma + \mathbf{X}_i\beta + \epsilon_i \tag{4}$$

As mentioned earlier, syndicate structure is proxied by the three measures we described above. The key right-hand side variable is GIndex. The main coefficient of interest is λ which captures the effect of *increasing* shareholder rights on syndicate concentration. Both the borrower recapitalization and the asset-substitution hypotheses imply a negative coefficient for GIndex (λ) if Syndicate Structure is the fraction of loan retained by lead or Herfindahl index, and a positive coefficient if Syndicate Structure is the number of lenders. This implies that higher GIndex, i.e. lower shareholder rights borrowers, should be associated with less concentrated (lower fraction of loan retained by the lead, lower Herfindahl index as well as a larger number of lenders) syndicates. Thus, λ measures whether differences in corporate governance translate into differences in syndicate structure.

The choice of other right-hand side variables in model 4 are similar to those used by Sufi (2007). One of his main findings is that the informationally opaque borrowers are associated with significantly more concentrated syndicates. Following his methodology, we define *Opaque* as a dummy variable that equals one if the borrower lacks an S&P senior unsecured debt rating and zero if the borrower has a S&P senior unsecured debt rating.[7] $\mathbf{X}$ is a vector of firm and loan specific control variables that include loan purpose, state of

[7]Sufi classifies all borrowers that are listed *and* rated as transparent and all other firms as opaque. Given that we require our sample firms to be covered by IRRC and Compustat all the firms in our sample are listed. We define a firm in our sample to be opaque if it lacks the credit rating.

incorporation, year and industry dummies, the natural log of firms' book assets, and a variety of controls for loan characteristics. As Table 6, Panel C demonstrates, there are important differences in the size of firms and loan amounts across high and low GIndex borrowers and these controls are included to take into account their effect on syndicate structure. We follow Sufi's empirical methodology and split our sample into three groups based on the amount of the loan facility. We include the dummy variable for the largest and the middle tercile as well as the interaction of these with the natural log of loan facility amount in our estimation. Effectively this allows both the intercept as well as the natural log of the amount of the loan to vary by each loan size group. Sufi reports that need for higher concentration of loan syndicates for opaque firms is mitigated if the borrower has borrowed in the syndicated loan market in the past. Again as in Sufi (2007), for each loan in our sample we look back to see how many loans that borrower had contracted in the past and include ln(1+Number of previous loans) as well as the interaction of this variable with opaque in our regression model. We also estimate and include a relationship measure that captures the strength of past interactions between the borrower and the lead lender. This measure is constructed based on methodology described by Bharath et al. (2011). Finally, we include natural log of facility tenor, a dummy variable if the facility is a term loan. All standard errors are heteroscedasticity robust, and clustered at the borrowing firm level.

We report our findings in Table 8A. In column 1, 3, and 5 we use the GIndex directly and essentially reproduce a specification similar to the one estimated by Sufi (2007) with the shareholder rights as an additional explanatory variable. Consistent with his results we also find that firm opacity has a large and significant (both statistically and economically) impact on syndicate structure. Thus, even though our sample is different (larger borrowers, larger loans) from Sufi's, the key result of syndicate structure being driven by need for lender monitoring continues to hold. Similar to his results, we also find that the borrower reputation as proxied by number of previous syndicated loans, helps reduce the need for higher syndicate concentration for the opaque firms. All the other variables have coefficients that are similar in size and significance to those reported by Sufi. These results are reassuring in the sense that our sample, although collected over a different period and consisting of different types of borrowers, still validates the key finding of previous studies that show significant relationship between a borrower's information asymmetry and its loan syndicate structure. The key results from this table are the coefficients for GIndex. Using the fraction of loan retained by the lead as a measure of syndicate concentration (column 1) we find that coefficient for GIndex is negative (-0.3146) and significant (at the one percent level). Thus,

on average, each single point increase in GIndex translates into 0.3 percent increase in the share retained by the lead bank. In column 2 we use an alternative form of shareholder rights index. We create a dummy variable, High GIndex, that equals one if the GIndex of the borrowing firm is above the sample median (weak shareholder rights) and zero otherwise. The coefficient for high GIndex is -2.045 when we use share of the loan retained by the lead bank as a proxy for syndicate structure. The economic significance of these results is best illustrated by comparing the effect of shareholder rights on a firm with Gindex above the sample mean (weak shareholder rights) to that on a borrower with GIndex below the sample mean (strong shareholder rights). Holding all else constant, this translates into an increase of almost 2.04% (9×-0.296) in the share of the loan retained by the lead. Considering that the average share of the loan held by the lead bank in our sample is 20.1%, this implies an increase of 10% in the loan share held. Thus, the economic impact of shareholder rights on fraction retained by the lead is fairly significant. This is significant at the one percent level (t- statistic of -3.57). We estimate similar specifications using Herfindahl index and Ln(1+Number of lenders) as our dependent variable. The results are qualitatively similar to those for lead lender's loan share. These results provide additional support to the argument that increases in GIndex (weaker shareholder rights) are associated with less concentrated syndicates. The original results on borrower opaqueness and borrower reputation reported by Sufi (2007) remain essentially unchanged as the coefficient for opaque as well as number of previous syndicated loans are very similar to those reported in columns 1 and 3. Thus, our findings on the role of shareholder rights in syndicate structure represent new results.

To test for robustness, we use an alternative proxy for shareholder rights in place of GIndex. Daines and Klausner (2001) discuss that some anti-takeover provisions are enshrined in the charter and bylaws of a corporation. Having a classified (staggered) board is a highly effective anti-takeover mechanism. This can be combined with other provisions such as limiting the ability of shareholders to vote by written consent, adoption of poison pill etc. to impose significant delays on a potential acquiror. We replace the GIndex in our empirical specification by dummy variables that capture the joint effect of classified board in conjunction with other anti-takeover measures. These results are reported in Panel B of Table 8. In columns 1 through 3 we proxy the weak shareholder rights by a dummy variable "Classified board with prohibitions on voting". This variable equals one if the borrower has a classified board *and* it limits the ability of shareholders to act by written consent. The results are significant and similar to those reported in panel A of Table 8. For example, the coefficient for this anti-takeover provision is -1.27 which is significant at the five percent level. Thus

the lead lender to a borrower with a classified board and limited ability of shareholders to act by written consent, on average, holds a share that is 1.27 percent lower compared to similar borrower that does not have these anti-takeover provisions. In columns 4 through 6 we create an alternative anti-takeover proxy which equals one if the borrower has a staggered board, has adopted a poison pill, and has adopted a blank check provision and zero otherwise. The results are similar, albeit the significance levels are lower. These results show that our earlier finding of significant relationship between loan syndicate structure and the governance structure of the borrower are robust to the proxy used for shareholder rights.

While the results in Table 8 provide strong evidence that strong shareholder rights are associated with significantly concentrated loan syndicates, the exact channel through which this effect takes place is not clear. As we mentioned earlier, higher level of shareholder rights could raise the need for lead lender monitoring (i.e. higher syndicate concentration) on account of two possible concerns. First, the need for more intense monitoring can arise as the risk of asset-substitution increase if the high shareholder rights (low GIndex) align the interests shareholder and managers. Such shareholder aligned managers may be more inclined undertake investment strategies that seek to transfer wealth from the debt-holders to shareholders. Second possible channel is the risk of borrower recapitalization. Borrowers with high shareholder rights are easier targets for takeovers. Lender to such firms may demand more intense monitoring to protect themselves against potential acquisition of the borrower and subsequent increase in leverage. We examine each of these possible explanations in our next section.

As the default risk increases, the borrower is more likely to undertake high risk investments that have a small probability of high return Jensen and Meckling (1976) describe the likely conflict between a firm's shareholders and its debtholders arising primarily via the risk shifting incentives faced by the shareholders. Given the fixed amount of upside payment (face value of debt) for the debt holders, shareholders (or managers perfectly aligned with shareholders) can transfer wealth from debt holders by undertaking riskier projects that have low (or even negative) NPV but have a small likelihood of delivering a large pay-off. Should the high pay-off be realized, shareholders stand to gain bulk of the cash flow as debt holders are only entitled to the face value of their loans. Such distortion in investment incentives has been discussed extensively in literature (Parrino and Weisbach, 1999). A higher level of shareholder rights implies better alignment of incentives faced by the shareholders and the managers, which in turn provides more incentives to seek risk-shifting at the expense of debtholder. Thus, the likelihood of such risk-shifting behavior should be higher for firms

with stronger shareholder rights (Low GIndex). Another way of characterizing this incentive is by viewing equity as a call option on the firm's assets which explains why increasing risk is value enhancing for the shareholders. These incentives are likely to be especially strong for firms that are closer to financial distress. Equity of such firms can be viewed as an out of money call option. This implies that interaction of high shareholder rights (GIndex) and higher likelihood of default (low Z Score) is the least desirable combination for the lenders. For a borrower with this profile, the loan syndicate would have significantly higher need for close monitoring. Lenders are aware of such conflicts and frequently use restrictive covenants to protect themselves. However, these covenants can not provide complete protection and are costly to enforce. Furthermore, such covenants in turn require a higher level of monitoring by the lenders. This implies that syndicate structure with its monitoring implication may be related to the governance structure of the borrower via the risk-shifting channel.

We modify the general test specification of model 4 to test the asset substitution hypothesis. We first calculate the Altman-Z score for all our sample firms using the most recent publicly available data at the time of loan facility origination. Following Altman (1968) we create a dummy variable, Distressed, that equals one if the Z-score of the borrower is less than 1.81. We also include the interaction of this dummy variable with GIndex. Thus our general test specification of model described in equation 4 is modified as described below:

$$\begin{aligned}(Syndicate\ Structure)_i &= \alpha + (GIndex)_i\lambda + (Distressed)_i\theta_1 \\ &+ [(G\ Index)_i \times (Distressed)_i]\theta_2 + Opaque_i\gamma + \mathbf{X}_i\beta + \epsilon_i \quad (5)\end{aligned}$$

Since Z-Score below 1.81 implies high risk of default, a borrower that is classified distressed would pose a high risk of wealth transfer from lenders to shareholders via risk-shifting. Ex-ante the syndicate structure should reflect the need for closer monitoring required for such a borrower and we should expect the syndicates to be significantly more concentrated for such borrowers. Thus, using the structure described in equation 5, we should expect the coefficient for Distressed (estimate of θ_1) to be negative and significant. However this conflict between shareholders and debtholders may be lowered if managers are not perfectly aligned with the shareholders. The shareholder-manager agency problem predicts that managers would make decisions that may benefit them at the cost of shareholders. Thus, even if taking on riskier projects may be optimal for the shareholders, managers may not choose to do so as it increases the likelihood of job loss for them. Therefore the incentives for risk shifting would be far lower in low shareholder rights (high GIndex) borrowers where managers are

less aligned with the shareholders. In such firms managers are more likely to avoid risky projects to preserve their jobs and to aim for low levels of cash flow variability. Thus, the issue of risk shifting associated with low Z-score would be somewhat mitigated if such a borrower also has low shareholder rights (high GIndex). Thus, we should expect the interaction term $GIndex \times Distressed$ to have a negative coefficient (i.e. estimate of θ_2).

We report our results in columns 1 through 3 of Table 9. Again we use the fraction of the loan retained by the lead (in column 1), Herfindahl index of loan share concentration (in column 2), and number of lenders (in column 3) as our measures for syndicate structure. The results provide strong support for the risk-shifting hypothesis and also implies that the impact of corporate governance on syndicate structure appears to be largely via this channel. In model 1 we include the dummy variable for borrowers that have a high probability of default (Distressed) and its interaction with GIndex. The coefficient for Distressed is positive and significant at the one percent level. The coefficient of 8.70 implies that holding all else constant the syndicate lead bank is required to hold 8.7 percent more of the loan. Which is significant at the one percent level. More importantly, the coefficient for the interaction term $GIndex \times Distressed$ (θ_2) is negative and significant at the one percent level. Thus, increasing GIndex (i.e. lowering the shareholder rights) reduces the syndicate structure concentration. Another way to describe this is to note that while distressed borrowers have a significantly concentrated loan syndicate, if such distressed borrower happens to have low shareholder rights (high GIndex), the syndicate concentration is *significantly lowered* compared to similar distressed borrower with high shareholder rights. As reported in column 2, using Herfindahl index as syndicate structure proxy yields results that are of similar statistical and economic significance. When we use number of lenders as the proxy for syndicate concentration, we obtain similar results albeit with lower level of statistical significance. GIndex is no longer significant. This coefficient should be interpreted as the marginal effect of shareholder rights for borrowers that are not classified as being distressed. Thus, it appears that the entire effect of corporate governance on syndicate structure is limited to the distressed borrowers. Finally, we note that all the established results on syndicate structure continue to hold. For example, while more opaque firms require significantly more concentrated syndicate, this effect is mitigated if the firm has borrowed repeatedly in the past. Historical lending relationships continue to be associated with lower levels of syndicate concentration. Overall these results provide strong evidence that syndicate structure is associated with shareholder rights for firms that have a significantly higher risk of default. This is consistent with our conjecture that potential for wealth transfer via risk-shifting is a

major concern for loan syndicate members and the observed syndicate structure reflects this concern.

The GIndex of a firm has also been interpreted as a good measure of how easy it is to launch a take-over attempt for that firm. Low level of GIndex indicates relatively few corporate governance provisions (e.g. poison pills, staggered boards etc.) that can be used to delay or defeat a takeover bid that is not fancied by the managers even if such a deal would be approved by the shareholders. Why should a firm's higher vulnerability to becoming a takeover target be a concern of the lenders of that firm? It is possible to argue that post-acquisition, the lender may or may not be exposed to higher financial risk. If a relatively highly leveraged firm is acquired by an acquiror with little or no debt, the lenders of the target firm are in a better position after the takeover since their loans now are backed by a bigger and less leveraged combined firm. However, such cases tend to be rare and most takeovers lead to higher leverage for the targets (see Warga and Welch 1993; Ghosh and Jain 2000; as well as Cremers and Nair 2005 for some recent evidence).

Given the almost uniform increase in debt levels post-acquisitions, it is natural to assume that lenders of a borrower with high vulnerability of takeover would rationally anticipate potential future increase in risk. In fact, studies of bond markets (Klock, Mansi, and Maxwell (2005) and Cremers, Nair, and Wei (2007)) show that bond-yields demanded for borrowers with better shareholder rights are significantly higher compared to similar borrowers with low shareholder rights. Chava et al. (2008) provide similar results for corporate bank loans and report that even at the time of origination, borrowers with better shareholder rights pay a higher interest rate on their loans after loan and borrower specific characteristics are controlled for. If a concentrated loan syndicate can provide mechanisms to control this risk (e.g. through better monitoring by the lead bank) one should expect corporate governance of borrower to be related to syndicate structure.

Since the risk of increase in debt levels matters most for firms with low leverage *and* high shareholder rights, it provides us with an empirical strategy to test if this risk is a significant driver of syndicate structure. We sort all our borrowers based on the reported leverage at the time of the loan origination and partition them into quartiles based on leverage. We define Low Leverage as a dummy variable that equals one if the borrower is in the lowest quartile as ranked by leverage. We also include GIndex and an interaction term GIndex $\times$ Low Leverage. To test this we devise an empirical strategy similar to the one we used for testing the asset-substitution hypothesis. Thus our general test specification of model 4 is modified as described below:

$$
\begin{aligned}
(Syndicate\ Structure)_i &= \alpha + (GIndex)_i\lambda + (Low\ Leverage)_i\delta_1 \\
&+ [(G\ Index)_i \times (Low\ Leverage)_i]\delta_2 + Opaque_i\gamma + \mathbf{X}_i\beta + \epsilon_i \quad (6)
\end{aligned}
$$

The coefficients δ_1 and δ_2 provide estimates of the effect of recapitalization risk on syndicate structure. If shareholder rights affect the syndicate structure due to higher risk of increase in leverage, we should expect δ_1 to be positive and significant implying that firms with potential for future increase in leverage are associated with more concentrated syndicate. Since we are interested in how shareholder rights impact syndicate structure, δ_2 estimates the impact of decreasing shareholder rights for the firms with largest potential for leverage increase (lowest leverage quartile). We should expect δ_2 be negative as the need for more concentrated syndicate would decline as GIndex increases (takeover risk decreases).

The results reported in columns 4 through 6 in Table 9 fail to provide significant support for the "Borrower Recapitalization" hypothesis. In column 4 we use fraction of loan held by the lead as our dependent variable. We also include the dummy variable for the lowest leverage quartile and the interaction term (GIndex×low leverage). The coefficient for GIndex is negative (-0.31) and significant (t-value of -2.60) implying that lower shareholder rights (higher GIndex) continue to be associated with lower fraction of loan being retained by the lead bank (i.e. less concentrated syndicates). Interestingly neither low leverage (estimate of δ_1) nor the coefficient on the interaction term (estimate of δ_2) are significant. Thus, the borrower leverage at the time of the loan origination appears to provide little explanatory power for variation in fraction of loan retained by the lead bank. In column 5 we employ the Herfindahl index as the measure of syndicate structure and its interaction term with the dummy variable for the lowest leverage. However, as in column 4, while GIndex continues to be highly significant, the leverage level at the time of origin is not related to the syndicate structure in a significant way as both the coefficient estimates for δ_1 and δ_2 are statistically indistinguishable from zero. Column 6 reports the estimates from similar regression using number of lenders as proxy for syndicate structure. Once again there is no evidence that low leverage is associated with syndicate structure design. Thus, risk of borrower recapitalization after being acquired appears not to be a significant factor influencing the syndicate structure.

To address potential endogenity issues in which an omitted variable may be driving both the level of shareholder rights (GIndex) as well as the syndicate structure, we also perform a changes regression. If the omitted variable is time invariant using the *changes* in our economic variables rather than the *levels* should eliminate this bias. We need to take into

account the fact that GIndex changes very slowly so similar to Chava et al. (2009) we focus on only those borrowers which experience a change in their GIndex. Since some borrowers have multiple loans between subsequent IRRC publications, we retain first loan facility obtained by the borrower during the period covered by the IRRC report. For these borrowers we calculate the Δ syndicate structure as well as changes in firm and loan characteristics. We are left with 280 observations once we impose this screen. Table 10 describes the results of our changes regression. In columns one through three we use the difference in GIndex (be it positive or negative) as the explanatory variable. We also include changes in book assets of the borrower, loan amount and maturity as control variables. Our dependent variable is Δ syndicate structure. The coefficient for ΔGindex is -1.49 thus a one point increase in GIndex score is associated with 1.5 percent decline in share held by the lead bank. The coefficient is significant at the five percent level. Using changes in HHI and number of lenders provides similar results in that decrease in shareholder rights (increasing GIndex) is strongly associated with decrease in syndicate structure. In columns four through six we focus on only those cases where GIndex increases (i.e. the subsequent loans are made to a firm that has lowered its shareholder rights). We create a dummy variable, ΔGIndex^{+} that takes the value one if ΔGIndex is greater than or equal to one and zero otherwise. This delineates the cases of those borrowers where shareholder rights were unequivocally decreased as measured by GIndex. The coefficient forΔGIndex^{+} is -3.94 and significant at the five percent level. When we use HHI or Number of lenders as measures of syndicate concentration we obtain similar results. Thus, our results show that compared to borrowers the *decrease* in shareholder rights has an especially powerful effect in terms of decreasing the syndicate concentration compared to the cases where shareholder rights either remain the same or increase. These results provide additional support for our earlier findings.

We also examine the question of why are some loans not syndicated at all and if a borrower's governance structure plays a part in determining if the loan would be syndicated in the first place. We create a dummy variable, Sole Lender that equals one if the loan is provided by a sole lender, i.e. the loan is not syndicated. Presumably, these cases represent borrowers where the perceived risk-shifting incentives are too high requiring a level of borrower monitoring that is only feasible for a sole lender. If our conjecture is true, the level of shareholder rights should be a significant factor in whether a loan is syndicated or not. We test this by estimating a logit specification where the dependent variable is Sole Lender and explanatory variable is the GIndex of the borrower. We also estimate a Linear Probability Model where we estimate an OLS specification with Sole Lender as a dependent

variable. Similar to our earlier model econometric specifications we include various borrower and loan characteristics as control variables. These results are described in Table 11. The coefficient for GIndex is negative for both logit and LPM specification (columns 1 and 2) but it is statistically significant in the LPM specification. To examine the role of the risk of asset substitution on syndicate structure, we include the dummy variable Distressed and its interaction with GIndex similar to our specification tested in Table 9. Columns 3 and 4 report the results of logit and LPM specifications. The coefficient distressed firm is positive and significant at the one percent level implying that such borrowers are very unlikely to obtain syndicated loans. The coefficient on the interaction term, GIndex×Distresses is -0.07 for the logit specification. To facilitate economic interpretation, we report marginal effects at the bottom of the table which is -0.0062. This implies that holding all other variables at sample mean a one point increases in GIndex for a distressed borrower decreases the probability of being given a loan by a single lender. Thus, the probability that a syndicate would be willing to lend increases if the distressed borrower has lower shareholder rights (higher GIndex). The coefficient is significant at the ten percent level. The results are similar and stronger for the LPM specification. In columns 5 and 6 we test to see if the risk of borrower recapitalization has a significant impact on syndicate formation. Again, we include a dummy variable Low Leverage which equals one the leverage ratio of the borrower at the time of the loan origination is in the lowest quartile of the sample. We also include an interaction term GIndex×Low Leverage to isolate the effect that risk of borrower recapitalization may have on syndicate formation. The coefficient for Low Leverage is positive significant for both logit as well as the LPM specification at the one percent level. Thus, potential syndicate members are especially concerned about the risk of future increases in leverage and such borrowers are significantly more likely to borrow from a single lender. Interestingly, the coefficient for the interaction term is negative and significant at the one percent level. The marginal effect for the logit model is -0.012 implying that for low leverage borrowers the likelihood of getting a syndicated loan versus sole lender loan increases 1.2 percent for every point increase in GIndex. The LPM specification reported in column 6 provides similar results. Taken all together, the governance structure of a borrower appears to play a significant role in whether it obtains a sole lender or a syndicated loan. Furthermore, syndicate formation is associated with both the risk of asset substitution as well as the risk of future increase in leverage.

5 Conclusion

Greater (Lesser) shareholder rights are likely associated with higher risk-shifting incentives, which in turn requires more (less) intensive monitoring by the lenders. We hypothesize that as shareholder rights are reduced, the need to form more concentrated (i. e. monitoring intensive) syndicates would be reduced as well. We use the passage of second generation antitakeover laws in the United States as an exogenous shock that reduced shareholder rights for the firms located in the states that adopted these laws. Using this natural experiment, we find that loan syndicates became significantly more diffused after the passage of these laws. These natural experiment results are confirmed using a large sample of bank loans made during the 1990-2007 period, where we employ G-Index of Gompers, Ishii, and Metrick (2003) as a measure of shareholder rights. We find that the lending syndicates for borrowers with low G-Index (i.e. high shareholder rights) are significantly more concentrated. Our results have important implications for understanding the link between corporate governance and the design of loan syndicate structure.

APPENDIX A
Main Variables

This table provides the definition and construction methodology for the key variables used in the empirical analysis.

Variable	**Data Source and Methodology**
Syndicate structure [Source: LPC DealScan]	
% Held by Lead	Share of the facility retained by the lead bank. Obtained directly from LPC, for facilities with multiple lead banks, it is the average of shares held by lead banks. In DealScan, the lead bank is the *lead-arranger*, *lead-role* if lead-arranger is missing.
Herfindahl	Herfindahl-Hirschmann concentration Index of the syndicate. Obtained by summing up the squares of each syndicate member's share.
# Lenders	Total number of lenders in the syndicate.
GIndex	GIndex indicates the strength of shareholder rights. Gindex measures the number of antitakeover provisions in the firm's charter, Gompers Ishii Metrick (2003). 0 indicates the strongest shareholders rights and 24 the weakest shareholders rights. Source: IRRC.
Loan characteristics [Source: LPC DealScan]	
After	Dummy variable that takes the value 1 if the facility is issued after the passage of the antitakeover law.
Opaque	Dummy variable that takes the value 1 if the firm has no S&P credit rating at the time of issuance.
Relationship	Dummy variable that takes the value 1 if one of the lead banks was a lead bank of the borrowing firm in the previous five years. Follows Bharath et al. (2011).
# Previous Deals	Number of previous deals issued by the borrower in the sample. The count takes account for syndicated and non-syndicated loans.
Facility Amount	Size of the facility in Million Dollars (Adjusted to constant 2000 dollars).
Maturity	Length in months between the facility activation date and maturity date.
Firm characteristics [Source: Compustat]	
Assets	Book value of total assets [at].
Leverage	(Current Debt [dlc] + Long-Term Debt [dltt]) / Assets[at].
Distressed	Dummy variable that takes the value 1 if the firm's Altman (1968) Z-Score is less than 1.81. Z-Score = (1.2×Working Capital [wcap] + 1.4×Retained Earnings [re] + 3.3×Pretax Income [pi] + 0.999 ×Sales [sale]) / Assets [at] + 0.6×(Market Value of Equity [csho×prcc_f] + Preferred Stocks [pstkl] (if available)) / Total Liabilities [lt]

APPENDIX B
State Antitakeover Legislation

This table reports states that passed an antitakeover law (Business Combination, Fair Price, Control Share Acquisition) and the year of passage of the laws.

State	Business Combination	Fair Price	Control Share Acquisition
Arizona	1987	1987	1987
Connecticut	1989	1984	
Delaware	1988		
Florida	1987	1987	1987
Georgia	1988	1985	
Hawaii			1985
Idaho	1988	1988	1988
Illinois	1989	1984	
Indiana	1986	1986	1986
Iowa	1997	1997	1997
Kansas	1989		1988
Kentucky	1987	1989	
Louisiana		1985	1987
Maine	1988		
Maryland	1989	1983	1988
Massachusetts	1989		1987
Michigan	1989	1984	1988
Minnesota	1987		1984
Mississippi		1985	1991
Missouri	1984	1986	1984
Nebraska	1988		1988
Nevada	1991		1987
New Jersey	1986	1986	
New York	1985	1985	
North Carolina		1987	1987
Oklahoma	1991		1987
Ohio	1990	1990	
Oregon			1987
Pennsylvania	1989	1989	1989
Rhode Island	1990		
South Carolina	1988	1988	1988
South Dakota	1988	1990	1990
Tennessee	1988	1988	1988
Texas	1997	1997	1997
Utah			1987
Virginia	1988	1985	1988
Washington	1987	1990	
Wisconsin	1987	1985	1991
Wyoming	1989		1990

Source: Bertrand and Mullainathan (2003), and Bebchuk and Cohen (2003).

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TABLE 1
Sample Distribution by State of Incorporation.

Panel A: Unrestricted Sample, 1986–1991.

This table reports the distribution of the facilities by state of incorporation of borrowers in the *unrestricted sample* The unrestricted sample is constructed so that it includes all facilities in the period 1986-1991 with relevant information. *Before* indicates that the facility was issued any time before or in the year the first of the antitakeover laws was passed. Antitakeover laws are Business Combination, Fair Price, and Control Share Acquisition. *After* indicates that the facility was issued any time after the year the law was passed.

	Before	After	Total	% sample
States that passed Antitakeover Laws				
Arizona	0	3	3	0.17
Connecticut	0	4	4	0.23
Delaware	406	719	1,125	64.36
Florida	8	19	27	1.54
Georgia	0	23	23	1.32
Hawaii	0	1	1	0.06
Illinois	0	7	7	0.40
Indiana	0	19	19	1.09
Iowa[a]	7	0	7	0.40
Kansas	3	5	8	0.46
Kentucky	0	1	1	0.06
Louisiana	0	11	11	0.63
Maine	1	1	2	0.11
Maryland	0	19	19	1.09
Massachusetts	4	37	41	2.35
Michigan	0	25	25	1.43
Minnesota	0	21	21	1.20
Missouri	0	8	8	0.46
Nevada	1	22	23	1.32
New Jersey	0	17	17	0.97
New York	0	68	68	3.89
North Carolina	0	12	12	0.69
Ohio	38	12	50	2.86
Oklahoma	0	8	8	0.46
Oregon	1	9	10	0.57
Pennsylvania	17	18	35	2.00
Rhode Island	1	0	1	0.06
South Carolina	0	5	5	0.29
Tennessee	6	12	18	1.03
Texas[a]	42	0	42	2.40
Utah	0	3	3	0.17
Virginia	0	21	21	1.20
Washington	1	18	19	1.09
Wisconsin	0	23	23	1.32
Wyoming	0	2	2	0.11
States that never passed any Antitakeover Law				
Alabama, Alaska, California, Colorado, New Mexico, West Virginia			39	2.22
Total	536	1,173	1,748	100

[a] This state passed its first antitakeover law beyond the sample period.

TABLE 1
Sample Distribution by State of Incorporation.

Panel B: Restricted Sample.

This table reports the distribution of the facilities by state of incorporation of borrowers in the *restricted sample*. The restricted sample is constructed in three steps.

1. We remove facilities with insufficient information for the analysis.

2. For each (*treated*) state that passed an antitakeover law (Business Combination, Fair Price, Control Share Acquisition), we set the year of the first passage of a law to 0. We then define *Before* the time window that covers relative years [-3, 0]; *After*, the time window that covers relative years [+1, +3]. For a firm that is incorporated in a treated state to be selected, we ensure that of all its facilities, the sample includes at least one facility that is issued *Before* the passage of the law, and one facility that is issued *After* the passage of the law. We retain all facilities of the selected firms issued in the time window [-3, +3] around year 0 of the passage of the law.

3. We select all facilities issued by firms incorporated in non-treated states and issued in calendar years for which the sample includes treated states facilities.

State	Before	After	Total	%
States that passed Antitakeover Laws				
Delaware	143	183	326	58.53
Iowa	2	1	3	0.54
Kansas	3	5	8	1.44
Nevada	1	2	3	0.54
Ohio	12	18	30	5.39
Pennsylvania	7	9	16	2.87
Rhode Island	1	1	2	0.36
Tennessee	3	6	9	1.62
Texas	23	10	33	5.92
States that never passed Antitakeover Laws				
Alabama, Alaska, Arkansas, California, Colorado, New Hampshire, New Mexico, Vermont, Washington, D.C., West Virginia			127	22.81
Total	195	235	557	100.0

TABLE 2
Description of Key Variables

These tables report the descriptive statistics of the key variables in the *unrestricted* and the *restricted* samples. The unrestricted sample is constructed so that it includes all facilities in the period 1986-1991 with relevant information. The restricted sample is constructed in three steps. 1) We remove facilities with insufficient information for the analysis. 2) For each (*treated*) state that passed an antitakeover law (Business Combination, Fair Price, Control Share Acquisition), we set the year of the first passage of a law to 0. We then define *Before* the time window that covers relative years [-3, 0]; *After*, the time window that covers relative years [+1, +3]. For a firm that is incorporated in a treated state to be selected, we ensure that of all its facilities, the sample includes at least one facility that is issued *Before* the passage of the law, and one facility that is issued *After* the passage of the law. We retain all facilities of the selected firms issued in the time window [-3, +3] around year 0 of the passage of the law. 3) We select all facilities issued by firms incorporated in non-treated states and issued in calendar years that the sample includes treated states facilities.

Panel A: Unrestricted Sample, 1986 – 1991.

Variable	Mean	SD	25%	50%	75%	N
% Held by Lead Bank	32.17	20.14	15.22	29.76	50.00	1,748
Herfindahl	2,747	1,760	1,220	2,247	4,158	1,748
# Lenders	8.17	8.25	3	5	10	1,748
Opaque	0.83	0.3772	1	1	1	1,748
Assets (Million $)	1,928	4,103	209.9	568.6	1,932	1,748
Facility Amount (Million $)	272.6	460.5	42.5	103.3	274.2	1,748
Maturity	53.4	31.8	27	53	78	1,748

Panel B: Restricted Sample.

Variable	Mean	SD	25%	50%	75%	N
% Held by Lead Bank	29.09	19.34	13.33	25.00	45.00	557
Herfindahl	2,408	1,691	1,048	1,820	3,560	557
# Lenders	9.52	9.14	3	7	12	557
Opaque	0.74	0.44	0	1	1	557
Assets (Million $)	2,655	5,170	241.9	746.6	2,662	557
Facility Amount (Million $)	304.6	472.0	45.6	118.9	360.0	557
Maturity	53.4	32.7	25	55	79	557

TABLE 3

Effect of Change in Antitakeover State Laws on Loan Syndicate Structure

This table provides the OLS estimates of the following model.

$$(Syndicate\ Structure)_{ist} \quad = \quad \alpha_s + \alpha_t + \beta(After) + \mathbf{X}_{ist}\Gamma + \epsilon_{ist}$$

Syndicate Structure is alternatively the percentage held by the lead bank, Herfindahl Index, and the number of lenders. The percentage held by lead bank and Herfindahl index are scaled to 0-1. Columns (1)-(3) report estimates using the unrestricted sample. Columns (4)-(6) report estimates using the restricted sample. The *unrestricted sample* includes all facilities in the period 1986-1991. In this sample, *After* is a dummy variable that takes the value 1 if the facility was issued any time after the year the first of the antitakeover laws was passed (Business Combination, Fair Price, Control Share Acquisition). The restricted sample is constructed in three steps. 1) We remove facilities with insufficient information for the analysis. 2) For each (*treated*) state that passed an antitakeover law (Business Combination, Fair Price, Control Share Acquisition), we set the year of the first passage of a law to 0. We then define *Before* the time window that covers relative years [-3, 0]; *After*, the time window that covers relative years [+1, +3]. For a firm that is incorporated in a treated state to be selected, we ensure that of all its facilities, the sample includes at least one facility that is issued *Before* the passage of the law, and one facility that is issued *After* the passage of the law. We retain all facilities of the selected firms issued in the time window [-3, +3] around year 0 of the passage of the law. 3) We select all facilities issued by firms incorporated in non-treated states and issued in calendar years for which the sample includes treated states facilities. In the restricted sample, *After* indicates that the facility is issued in the window [+1, +3]. *After* takes the value 0 for all facilities issued by firms incorporated in non-treated states. All models include year (α_t) and state of incorporation (α_s) fixed effects. Other explanatory variables are: *Opaque* indicates that the firm has no S&P credit rating; *Assets* is the log of constant dollar book value of assets; *Facility Amount* is the facility amount in constant dollars; Maturity is length in months between facility activation date and maturity date. The model also includes dummies that indicate a *Term Loan*, purpose of loan, and Fama-French industries. Heteroscedastic robust t-statistics controlling for state of incorporation cluster effects are reported in parentheses. (*** Significant at one percent level, ** Significant at five percent level ,* Significant at ten percent level)

	(1)	(2)	(3)	(4)	(5)	(6)
	% Held by Lead Bank	Herfindahl	ln(1+#Lenders)	% Held by Lead Bank	Herfindahl	ln(1+#Lenders)
After	-0.0351**	-0.0238**	0.0871***	-0.0767**	-0.0862***	0.2725**
	(-2.49)	(-2.07)	(3.49)	(-2.26)	(-3.24)	(2.24)
Opaque	-0.0054	0.0037	-0.0465***	-0.0041	0.0230***	-0.1387***
	(-0.83)	(0.70)	(-3.34)	(-0.37)	(3.02)	(-3.49)
Log(Assets)	-0.0397***	-0.0300***	0.1310***	-0.0457***	-0.0280***	0.1403***
	(-14.09)	(-12.00)	(9.26)	(-5.29)	(-4.26)	(7.63)
Log(Facility Amount)	-0.0235*	-0.0330***	0.0479**	-0.0158	-0.0438*	0.0566
	(-1.96)	(-5.23)	(2.63)	(-0.88)	(-1.77)	(0.79)
Log(Facility Amount)× Middle	-0.0419*	-0.0288*	0.2390***	0.0037	0.0021	0.1176
	(-1.80)	(-1.81)	(3.98)	(0.16)	(0.06)	(1.43)
Log(Facility Amount)× Large	-0.0056	0.0152**	0.2536***	0.0098	0.0390	0.2063*
	(-0.48)	(2.10)	(11.54)	(0.48)	(1.49)	(2.04)
Log(Maturity)	-0.0297***	-0.0118***	0.0654***	-0.0368***	-0.0251***	0.0761***
	(-5.92)	(-3.74)	(4.46)	(-4.56)	(-3.88)	(3.74)
Term Loan	0.0264***	0.0025	-0.0292***	0.0121	-0.0007	-0.0072
	(5.02)	(0.65)	(-3.35)	(0.98)	(-0.07)	(-0.20)
Loan Purpose indicators	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,748	1,748	1,748	557	557	557
Adjusted R^2	0.450	0.544	0.618	0.547	0.612	0.689

TABLE 4

Effect of Change in Antitakeover State Laws on Loan Syndicate Structure: Generalized Linear Model and Poisson Estimates.

This table provides the generalized linear model (Papke and Wooldridge, 1996) of percentage held by lead bank and the Herfindahl index, and Poisson estimates of the number of lenders of the following model.

$$(Syndicate\ Structure)_{ist} \quad = \quad \alpha_s + \alpha_t + \beta.After + \mathbf{X}_{ist}\Gamma + \epsilon_{ist}$$

Syndicate Structure is alternatively the percentage held by the lead bank, Herfindahl Index, and the number of lenders. The percentage held by lead bank and Herfindahl index are scaled to 0-1. Columns (1)-(3) reports estimates using the unrestricted sample. Columns (4)-(6) reports estimates using the restricted sample. Columns 1, 2, 4, and 5 report estimates of the generalized linear model (Papke and Wooldridge, 1996). Columns 3 and 6 report Poisson estimates. The *unrestricted sample* includes all facilities in the period 1986-1991. In this sample, *After* is a dummy variable that takes the value 1 if the facility was issued any time after the year the first of the antitakeover laws was passed (Business Combination, Fair Price, Control Share Acquisition). The restricted sample is constructed in three steps. 1) We remove facilities with insufficient information for the analysis. 2) For each (*treated*) state that passed an antitakeover law (Business Combination, Fair Price, Control Share Acquisition), we set the year of the first passage of a law to 0. We then define *Before* the time window that covers relative years [-3, 0]; *After*, the time window that covers relative years [+1, +3]. For a firm that is incorporated in a treated state to be selected, we ensure that of all its facilities, the sample includes at least one facility that is issued *Before* the passage of the law, and one facility that is issued *After* the passage of the law. We retain all facilities of the selected firms issued in the time window [-3, +3] around year 0 of the passage of the law. 3) We select all facilities issued by firms incorporated in non-treated states and issued in calendar years for which the sample includes treated states facilities. In the restricted sample, *After* indicates that the facility is issued in the window [+1, +3]. *After* takes the value 0 for all facilities issued by firms incorporated in non-treated states. All models include year (α_t) and state of incorporation (α_s) fixed effects. Other explanatory variables are: *Opaque* indicates that the firm has no S&P credit rating; *Assets* is the constant dollar book value of assets; *Facility Amount* is the logarithm of the facility amount in constant dollars; Maturity is length in months between facility activation date and maturity date. The model also includes dummies that indicate a *Term Loan*, purpose of loan, and Fama-French industries. Heteroscedastic robust z-statistics controlling for state of incorporation cluster effects are reported in parentheses. (*** Significant at one percent level, ** Significant at five percent level ,* Significant at ten percent level)

	(1)	(2)	(3)	(4)	(5)	(6)
	% Held by Lead Bank	Herfindahl	# Lenders	% Held by Lead Bank	Herfindahl	# Lenders
After	-0.1765**	-0.1245**	0.0328	-0.3995**	-0.4971***	0.2960**
	(-2.54)	(-2.03)	(0.56)	(-2.40)	(-3.79)	(2.37)
Opaque	-0.0223	0.0299	-0.0539**	-0.0138	0.1683***	-0.1274***
	(-0.61)	(0.90)	(-2.01)	(-0.23)	(3.57)	(-3.87)
Log(Assets)	-0.1920***	-0.1547***	0.1936***	-0.2361***	-0.1521***	0.1877***
	(-11.96)	(-9.81)	(11.62)	(-5.25)	(-4.17)	(14.19)
Log(Facility Amount)	-0.0792	-0.1090***	0.1222***	-0.0403	-0.1641	0.0888
	(-1.56)	(-4.18)	(5.27)	(-0.50)	(-1.42)	(1.43)
Log(Facility Amount)× Middle	-0.2437**	-0.2223***	0.2752***	0.0029	-0.0601	0.1892***
	(-2.39)	(-2.79)	(4.16)	(0.03)	(-0.40)	(2.99)
Log(Facility Amount)× Large	-0.2040***	-0.1700***	0.1855***	-0.1471	-0.0559	0.1775**
	(-4.19)	(-4.62)	(7.21)	(-1.20)	(-0.34)	(2.48)
Log(Maturity)	-0.1513***	-0.0668***	0.0744***	-0.1997***	-0.1561***	0.0393**
	(-6.63)	(-4.09)	(4.37)	(-5.32)	(-4.58)	(2.42)
Term Loan	0.1439***	0.0232	-0.0146	0.0844	0.0149	0.0174
	(5.80)	(1.19)	(-1.41)	(1.29)	(0.24)	(0.56)
Loan Purpose indicators	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
After, marginal effect	-0.0350	-0.0226	0.2679	-0.0731	-0.0812	2.8191
Observations	1,748	1,748	1,748	557	557	557
McFadden pseudo-R^2	0.104	0.110	0.432	0.131	0.134	0.513

TABLE 5

Effect of Change in Antitakeover State Laws on Loan Syndicate Structure: Business Combination Law and 1987 Supreme Court Decision.

This table provides the OLS estimates of the following model.

$$(Syndicate\ Structure)_{ist} \quad = \quad \alpha_s + \alpha_t + \beta.After + \mathbf{X}_{ist}\Gamma + \epsilon_{ist}$$

Syndicate Structure is alternatively the percentage held by the lead bank, Herfindahl index, and the number of lenders. The percentage held by lead bank and Herfindahl index are scaled to 0-1 All model estimates use restricted samples. Columns (1)-(3) reports estimates that consider the Business Combination antitakeover law only. Columns (4)-(6) report estimates taking account for all laws and the Supreme Court decision in 1987. For all states that passed an antitakeover law before 1987, 1987 becomes relative year 0. All estimates use the *restricted sample*. The restricted sample is constructed in three steps. 1) We remove facilities with insufficient information for the analysis. 2) For each (*treated*) state that passed an antitakeover law (Business Combination, Fair Price, Control Share Acquisition), we set the year of the first passage of a law to 0. We then define *Before* the time window that covers relative years [-3, 0]; *After*, the time window that covers relative years [+1, +3]. For a firm that is incorporated in a treated state to be selected, we ensure that of all its facilities, the sample includes at least one facility that is issued *Before* the passage of the law, and one facility that is issued *After* the passage of the law. We retain all facilities of the selected firms issued in the time window [-3, +3] around year 0 of the passage of the law. 3) We select all facilities issued by firms incorporated in non-treated states and issued in calendar years for which the sample includes treated states facilities. In this sample, *After* indicates that the facility is issued in the window [+1, +3]. *After* takes the value 0 for all facilities issued by firms incorporated in non-treated states. All models include year (α_t) and state of incorporation (α_s) fixed effects. Other explanatory variables are: *Opaque* indicates that the firm has no S&P credit rating; *Log(Assets)* is the log of constant dollar book value of assets; *Facility Amount* is the facility amount in constant dollars; *Maturity* is the length in months between facility activation date and maturity date. The model also includes dummies that indicate a *Term Loan*, purpose of loan, and Fama-French industries. Heteroscedastic robust t-statistics controlling for state of incorporation cluster effects are reported in parentheses. (*** Significant at one percent level, ** Significant at five percent level ,* Significant at ten percent level)

	(1)	(2)	(3)	(4)	(5)	(6)
	% Held by Lead Bank	Herfindahl	ln(1+#Lenders)	% Held by Lead Bank	Herfindahl	ln(1+#Lenders)
After	-0.0510**	-0.0506**	0.1633**	-0.0768**	-0.0852***	0.2713**
	(-2.09)	(-2.39)	(2.38)	(-2.30)	(-3.32)	(2.26)
Opaque	-0.0141	0.0076	-0.0969*	-0.0033	0.0240***	-0.1416***
	(-1.52)	(0.77)	(-2.02)	(-0.28)	(3.07)	(-3.65)
Log(Assets)	-0.0439***	-0.0303***	0.1372***	-0.0456***	-0.0281***	0.1415***
	(-6.06)	(-6.51)	(6.17)	(-5.21)	(-4.24)	(7.76)
Log(Facility Amount)	-0.0221	-0.0349	0.0627	-0.0086	-0.0369*	0.0322
	(-1.21)	(-1.68)	(1.21)	(-0.59)	(-1.76)	(0.53)
Log(Facility Amount)× Middle	-0.0504**	-0.0446	0.2557***	-0.0053	-0.0068	0.1500*
	(-2.17)	(-1.50)	(4.38)	(-0.27)	(-0.21)	(1.96)
Log(Facility Amount)× Large	0.0112	0.0310	0.1830**	0.0064	0.0352	0.2167**
	(0.54)	(1.37)	(2.69)	(0.42)	(1.67)	(2.61)
Log(Maturity)	-0.0317***	-0.0196***	0.0613***	-0.0371***	-0.0261***	0.0818***
	(-5.75)	(-3.84)	(3.12)	(-4.28)	(-3.77)	(3.52)
Term Loan	0.0118	-0.0033	0.0020	0.0110	-0.0013	-0.0057
	(1.26)	(-0.44)	(0.08)	(0.92)	(-0.15)	(-0.16)
Loan Purpose indicators	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	917	917	917	571	571	571
Adjusted R^2	0.556	0.609	0.711	0.543	0.612	0.689

TABLE 6
Effect of Change in Antitakeover State Laws on the Decision to Syndicate the Loan.

This table provides the Logit estimates of the following model.

$$(SoleLender)_{ist} \quad = \quad \alpha_s + \alpha_t + \beta.After + \mathbf{X}_{ist}\Gamma + \epsilon_{ist}$$

The dependant variable is Sole Lender, a dummy variable that takes the value 1 if the loan is funded by a single lender, i.e. the loan is *not* syndicated, 0 otherwise. Columns (1)-(2) report estimates using the unrestricted sample. Columns (3)-(4) report estimates using the restricted sample. The *unrestricted sample* includes all facilities in the period 1986-1991. In this sample, *After* is a dummy variable that takes the value 1 if the facility was issued any time after the year the first of the antitakeover laws was passed (Business Combination, Fair Price, Control Share Acquisition). The restricted sample is constructed in three steps. 1) We remove facilities with insufficient information for the analysis. 2) For each (*treated*) state that passed an antitakeover law (Business Combination, Fair Price, Control Share Acquisition), we set the year of the first passage of a law to 0. We then define *Before* the time window that covers relative years [-3, 0]; *After*, the time window that covers relative years [+1, +3]. For a firm that is incorporated in a treated state to be selected, we ensure that of all its facilities, the sample includes at least one facility that is issued *Before* the passage of the law, and one facility that is issued *After* the passage of the law. We retain all facilities of the selected firms issued in the time window [-3, +3] around year 0 of the passage of the law. 3) We select all facilities issued by firms incorporated in non-treated states and issued in calendar years for which the sample includes treated states facilities. In the restricted sample, *After* indicates that the facility is issued in the window [+1, +3]. *After* takes the value 0 for all facilities issued by firms incorporated in non-treated states. Columns (2) and (4) restrict sample to firms that issued at least one sole lender loan in the Before period. All models include year (α_t) and state of incorporation (α_s) fixed effects. Opaque is a dummy variable that takes the value 1 if the borrower has no S&P credit rating at the time of issuance. Facility Maturity is length in months between facility activation date and maturity date. Relationship is a dummy variable that takes the value 1 if one of the lead banks of the deal was a lead bank of the borrowing firm in the previous five years. # Previous Deals is the number of previous loans the borrower issued in the sample. Facility Amount is the dollar amount of the loan facility reported in constant year 2000 million dollars. Secured equals 1 if the loan is secured. All models include Deal Purpose indicators and Fama-French Industry fixed effects. Heteroscedastic robust z-statistics controlling for firm cluster effects are reported in parentheses. (*** Significant at one percent level, ** Significant at five percent level ,* Significant at ten percent level)

	(1) Sole Lender	(2) Sole Lender	(3) Sole Lender	(4) Sole Lender
After	-0.2193*	-1.8786***	-0.6038***	-1.9695***
	(-1.75)	(-4.07)	(-2.92)	(-7.34)
Opaque Firm	0.5369***	0.2829	0.4502*	0.6706***
	(5.26)	(1.12)	(1.71)	(2.90)
Maturity	-0.0088***	-0.0061*	-0.0104***	-0.0111***
	(-4.94)	(-1.79)	(-3.64)	(-3.36)
Relationship	-0.6682***	-0.5888***	-0.8481***	-0.7623***
	(-4.70)	(-2.61)	(-4.21)	(-4.85)
Log(1 + # Previous Deals)	0.1995***	-0.8657***	0.0568	-0.7084***
	(3.20)	(-7.08)	(0.41)	(-6.36)
Amount	-0.0047***	-0.0025***	-0.0036***	-0.0026***
	(-6.86)	(-9.71)	(-3.90)	(-3.52)
Secured	0.2758***	-0.0195	0.3093*	0.2336
	(4.89)	(-0.25)	(1.73)	(1.43)
Deal Purpose	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes
State Fixed Effect	Yes	Yes	Yes	Yes
After, Marginal Effect	-0.0407	-0.2490	-0.1032	-0.2687
Observations	5,745	1,744	2,900	1,938
Pseudo R^2	0.208	0.307	0.265	0.337

TABLE 7
Sample Description

Panel A: Sample Selection.

This table describes the sample selection process on which the estimates of the shareholder rights models are based. Sample selection for this study is based on all loan facilities included in the LPC DealScan database January 1990 and December 2007 (period covered by IRRC database). Loan facilities are excluded from the study if they do not meet the various screens for additional criteria as listed in Panel A.

Screen for the Final Sample	Number of Loan Facilities
Completed loans contracted by non-financial US firms between January 1990 and December 2007, i.e. one-digit SIC code 1 to 5 and 7.	70,008
IRRC reports the G-Index for the borrowing firms	11,932
Loan facility is syndicated and information on loan share held by syndicate member and/or number of lenders is available	3,555
Loan facility Tenor is available	3,515
Compustat data for estimating leverage and Z-Score are available	3,223
Final Sample	3,223

PANEL B: Summary Statistics for Key Loan and Borrower Characteristics.

The table below provides summary statistics of loan syndicate structure as well as various loan and borrower characteristics. % Held by Lead Bank is the LPC reported share of the loan retained by the lead bank at the time of loan origination. In case a loan has multiple lead banks, it is the average of shares reported for all the lead banks. Herfindahl is the sum of squares of loan shares retained by all the syndicate members. # Lenders is the total number of lenders in the syndicate. Gindex measures shareholder rights. It is obtained from IRRC database and is constructed based on the methodology described in Gompers, Ishii and Metrick (2003). Facility Amount is the dollar amount of loan facility reported in constant year 2000 million dollars. Maturity is length in months between facility activation date and maturity date. Term Loan and Secured are percent of facilities that have the stated attribute. Assets is the book value of assets in million dollars (as reported in the Compustat) for the most recent fiscal year preceding the date of loan origination. Z-score is Altman (1968) Z-Score. Distressed indicates that Z-Score $\leq$ 1.81. Leverage is the ratio of book value of total debt to book value of total assets. All Compustat values are winsorized at the 1% and 99% level.

			Distribution		
Variable	Mean	SD	25%	50%	75%
Syndicate Structure					
% Held by Lead Bank	20.1	14.9	10	15	25
Herfindahl	1,592	1,336	706	1,104	1,949
#Lenders	12.8	9.12	6	11	17
GIndex	9.4	2.64	8	9	11
Loan Characteristics					
All-In Drawn Spread	103	95.7	40	75	125
Facility Amount	411	466	113	233	499
Maturity (months)	42.4	23.4	12	47	60
Term Loan	0.125	0.33	0	0	0
Relationship	0.689	0.463	0	1	1
Firm Characteristics					
Assets	5746	10,440	752	1,987	5,618
Z-Score	3.38	2.76	1.7	2.84	4.36
Distressed	0.27	0.444	0	0	1
Leverage	0.281	0.173	0.171	0.273	0.378
Deal Purpose					
Working Capital/Corporate Purposes	0.509	0.5	0	1	1
Refinancing	0.166	0.372	0	0	0
Acquisitions	0.119	0.324	0	0	0
Backup Line	0.163	0.369	0	0	0
Other	0.042	0.2	0	0	0

PANEL C: Key Syndicate Structure Characteristics.

For this table we sort our entire sample of borrowers based on their shareholder rights index at the time of loan origination. Gindex measures the shareholder rights. Gindex is obtained from IRRC database and is constructed based on the methodology described in Gompers, Ishii and Metrick (2003). Higher GIndex indicates weaker shareholder rights. This table reports the key syndicate structure and other borrower characteristics for borrowers with high level of shareholder rights (above sample median) and those with low level of shareholder rights (below sample median). % Held by Lead Bank is the LPC reported share of the loan retained by the lead bank at the time of loan origination. In case a loan has multiple lead banks, it is the average of shares reported for all the lead banks. Herfindahl is the sum of squares of loan shares retained by all the syndicate members. # Lenders is the total number of lenders in the syndicate. (*** Significant at one percent level, ** Significant at five percent level ,* Significant at ten percent level)

	GIndex		*t*-test for difference
	HIGH	LOW	
% Held by Lead Bank	18.76	22.19	-6.449***
Herfindahl	1,491	1,744	-5.286***
# Lenders	13.56	11.77	5.473***
Opaque	0.28	0.40	-7.050***
Relationship	0.68	0.71	-1.767*
# Previous Deals	6.61	6.73	-0.554
Facility Amount (Million $)	436.3	371.9	3.853***
Maturity (months)	41.87	43.11	-1.472
Assets (Million $)	5,787	5,685	0.270
Distressed	0.285	0.248	2.296**
Leverage	0.280	0.283	-0.434

TABLE 8 A
Effect of Shareholder Rights on Loan Syndicate Structure

This table provides the OLS estimates (corrected for heteroscedasticity and clustering) of the following model.

$$(Syndicate\ Structure)_i \quad = \quad \alpha + (G\ Index)_i\lambda + \mathbf{X}_i\Gamma + \epsilon_i$$

We employ three dependant variables to proxy for the syndicate structure, % Held by Lead Bank, Herfindahl and #Lenders. % Held by Lead Bank is the LPC reported share of the loan retained by the lead bank at the time of loan origination. In case a loan has multiple lead banks, it is the average of shares reported for all the lead banks. Herfindahl is the sum of squares of loan shares retained by all the syndicate members. # Lenders is the total number of lenders in the syndicate. Gindex measures the shareholder rights. Gindex is obtained from IRRC database and is constructed based on the methodology described in Gompers, Ishii and Metrick (2003). Higher GIndex indicates weaker shareholder rights. High GIndex is a dummy variable that equals 1 if GIndex is above sample median (weak shareholder rights). Opaque is a dummy variable that takes the value 1 if the borrower has no S&P credit rating at the time of issuance. Relationship is a dummy variable that takes the value 1 if one of the lead banks of the deal was a lead bank of the borrowing firm in the previous five years. # Previous Deals is the number of previous loans the borrower issued in the sample. Asset is the book value of total assets in million dollars (as reported in the Compustat) for the most recent fiscal year preceding the date of loan origination. Facility Amount is the dollar amount of the loan facility reported in constant year 2000 million dollars. The entire sample is sorted based on loan facility amount and divided into three terciles. Large is a dummy variable that equals 1 if the loan amount falls in the top tercile and zero otherwise. Middle equals 1 if loan amount is in the middle tercile and 0 otherwise. Small equals one if the loan amount is in the lowest tercile and 0 otherwise. Maturity is length in months between facility activation date and maturity date. Term Loan equals 1 if the loan type is term loan. All models include Fama-French industry fixed effect, year fixed effects, and loan purpose indicators. Heteroscedastic robust t-statistics controlling for firm cluster effects are reported in parentheses. (*** Significant at one percent level, ** Significant at five percent level ,* Significant at ten percent level)

	(1) Lead %	(2) Lead %	(3) Herfindahl	(4) Herfindahl	(5) ln(1+#Lenders)	(6) ln(1+#Lenders)
GIndex	-0.3146***		-0.0215**		0.0077*	
	(-3.09)		(-2.33)		(1.75)	
High GIndex		-2.0448***		-0.1240**		0.0523**
		(-3.57)		(-2.43)		(2.12)
Opaque Firm	6.2705***	6.1577***	0.5420***	0.5352***	-0.1681***	-0.1652***
	(4.01)	(3.95)	(3.93)	(3.88)	(-3.13)	(-3.10)
Relationship	-1.5733**	-1.6340**	-0.1472**	-0.1507**	0.1078***	0.1094***
	(-2.22)	(-2.31)	(-2.36)	(-2.42)	(3.34)	(3.41)
Opaque × Relationship	-1.0705	-1.0707	-0.1263	-0.1256	-0.0557	-0.0556
	(-0.84)	(-0.84)	(-1.10)	(-1.10)	(-1.13)	(-1.13)
Log(1 + # Previous Deals)	-0.0049	-0.0233	0.0149	0.0142	0.0157	0.0162
	(-0.01)	(-0.05)	(0.33)	(0.31)	(0.70)	(0.73)
Opaque × Log(1 + # Previous Deals)	-2.8144***	-2.7889***	-0.2411***	-0.2391***	0.0897***	0.0892***
	(-3.31)	(-3.28)	(-3.09)	(-3.06)	(2.83)	(2.81)
Log(Assets)	-1.9147***	-1.9086***	-0.1187***	-0.1184***	0.0948***	0.0946***
	(-4.80)	(-4.84)	(-3.15)	(-3.16)	(5.34)	(5.38)
Amount	-7.8835***	-7.8974***	-0.8216***	-0.8224***	0.2496***	0.2500***
	(-8.05)	(-8.08)	(-8.63)	(-8.64)	(7.96)	(7.99)
Amount × Middle	1.6420	1.6608	0.2550**	0.2551**	0.1495***	0.1489***
	(1.18)	(1.20)	(2.02)	(2.02)	(3.00)	(2.99)
Amount × Large	7.1636***	7.2331***	0.6975***	0.7018***	-0.0063	-0.0080
	(6.36)	(6.45)	(6.76)	(6.81)	(-0.15)	(-0.19)
Maturity	-2.6005***	-2.6111***	-0.2409***	-0.2416***	0.1284***	0.1286***
	(-6.21)	(-6.28)	(-6.01)	(-6.05)	(6.68)	(6.73)
Term Loan	2.6796***	2.6959***	0.1439	0.1453	0.1328***	0.1325***
	(2.61)	(2.64)	(1.52)	(1.54)	(3.86)	(3.86)
Observations	3,223	3,223	3,223	3,223	3,223	3,223
R^2	0.428	0.429	0.429	0.429	0.585	0.585

TABLE 8 B

Effect of Shareholder Rights on Loan Syndicate Structure.

This table provides the OLS estimates (corrected for heteroscedasticity and clustering) of the following model.

$$(Syndicate\ Structure)_i \quad = \quad \alpha + (EntrenchedBoard)_i\lambda + \mathbf{X}_i\Gamma + \epsilon_i$$

We employ three dependent variables to proxy for the syndicate structure, % Held by Lead Bank, Herfindahl and #Lenders. % Held by Lead Bank is the LPC reported share of the loan retained by the lead bank at the time of loan origination. In case a loan has multiple lead banks, it is the average of shares reported for all the lead banks. Herfindahl is the sum of squares of loan shares retained by all the syndicate members. # Lenders is the total number of lenders in the syndicate. We use two indicators for Entrenched Board. Classified Board combined with Prohibitions on Voting is a dummy variable that takes the value if the firm has a classified board and limited ability to act by written consent or classified board and limited ability to call special shareholder meeting. Classified Board combined with Poison Pill and Blanck Check is a dummy variable that takes the value 1 if the firm has classified board, poison pill, and blanck check provisions. Opaque is a dummy variable that takes the value 1 if the borrower has no S&P credit rating at the time of issuance. Relationship is a dummy variable that takes the value 1 if one of the lead banks of the deal was a lead bank of the borrowing firm in the previous five years. # Previous Deals is the number of previous loans the borrower issued in the sample. Asset is the book value of total assets in million dollars (as reported in the Compustat) for the most recent fiscal year preceding the date of loan origination. Facility Amount is the dollar amount of the loan facility reported in constant year 2000 million dollars. The entire sample is sorted based on loan facility amount and divided into three terciles. Large is a dummy variable that equals 1 if the loan amount falls in the top tercile and zero otherwise. Middle equals 1 if loan amount is in the middle tercile and 0 otherwise. Small equals one if the loan amount is in the lowest tercile and 0 otherwise. Maturity is length in months between facility activation date and maturity date. Term Loan equals 1 if the loan type is term loan. All models include Fama-French industry fixed effect, year fixed effects, and loan purpose indicators. Heteroscedastic robust t-statistics controlling for firm cluster effects are reported in parentheses. (*** Significant at one percent level, ** Significant at five percent level ,* Significant at ten percent level)

	(1)	(2)	(3)	(4)	(5)	(6)
	Lead %	Herfindahl	ln(1+#Lenders)	Lead %	Herfindahl	ln(1+#Lenders)
Classified Board combined with Prohibitions on Voting	-1.2674**	-0.1182**	0.0496**			
	(-2.41)	(-2.46)	(2.11)			
Classified Board combined with Poison Pill and Blank Check				-1.2604**	-0.0908*	0.0243
				(-2.31)	(-1.85)	(1.02)
Opaque Firm	6.2925***	0.5437***	-0.1688***	6.2103***	0.5376***	-0.1670***
	(4.00)	(3.93)	(-3.14)	(3.94)	(3.88)	(-3.10)
Relationship	-1.5908**	-0.1497**	0.1090***	-1.5170**	-0.1433**	0.1065***
	(-2.25)	(-2.42)	(3.39)	(-2.14)	(-2.30)	(3.30)
Opaque × Relationship	-0.9792	-0.1202	-0.0578	-1.0623	-0.1261	-0.0563
	(-0.77)	(-1.05)	(-1.18)	(-0.83)	(-1.10)	(-1.14)
Log(1 + # Previous Deals)	0.0464	0.0185	0.0144	0.0067	0.0156	0.0152
	(0.09)	(0.40)	(0.64)	(0.01)	(0.34)	(0.67)
Opaque × Log(1 + # Previous Deals)	-2.7970***	-0.2410***	0.0900***	-2.7137***	-0.2341***	0.0875***
	(-3.30)	(-3.10)	(2.85)	(-3.20)	(-3.01)	(2.76)
Log(Assets)	-1.8994***	-0.1170***	0.0940***	-1.9724***	-0.1228***	0.0959***
	(-4.79)	(-3.14)	(5.40)	(-4.91)	(-3.24)	(5.39)
Amount	-7.8646***	-0.8199***	0.2489***	-7.8086***	-0.8162***	0.2482***
	(-8.02)	(-8.63)	(7.98)	(-7.94)	(-8.55)	(7.90)
Amount × Middle	1.5244	0.2473**	0.1522***	1.4782	0.2437*	0.1533***
	(1.10)	(1.97)	(3.08)	(1.06)	(1.93)	(3.10)
Amount × Large	7.1220***	0.6935***	-0.0045	7.1207***	0.6944***	-0.0055
	(6.32)	(6.73)	(-0.11)	(6.28)	(6.70)	(-0.13)
Maturity	-2.6047***	-0.2410***	0.1284***	-2.5911***	-0.2401***	0.1282***
	(-6.22)	(-6.04)	(6.72)	(-6.14)	(-5.95)	(6.66)
Term Loan	2.7245***	0.1466	0.1320***	2.7154***	0.1462	0.1318***
	(2.66)	(1.55)	(3.83)	(2.65)	(1.55)	(3.83)
Observations	3223	3223	3223	3223	3223	3223
R^2	0.427	0.429	0.585	0.426	0.429	0.584

TABLE 9

Risk-Shifting Risk, Recapitalization, and Loan Syndicate Structure.

This table provides the OLS estimates of the following model.

$$\begin{aligned}(Syndicate\ Structure)_i &= \alpha + (G\ Index)_i\lambda \\ &+ (Variable)_i\theta_1 + [(G\ Index)_i \times (Variable)_i]\theta_2 \\ &+ \mathbf{X}_i\Gamma + \epsilon_i\end{aligned}$$

We employ three dependant variables to proxy for the syndicate structure, % Held by Lead Bank, Herfindahl and #Lenders. % Held by Lead Bank is the LPC reported share of the loan retained by the lead bank at the time of loan origination. In case a loan has multiple lead banks, it is the average of shares reported for all the lead banks. Herfindahl is the sum of squares of loan shares retained by all the syndicate members. # Lenders is the total number of lenders in the syndicate. Gindex measures the shareholder rights. Gindex is obtained from IRRC database and is constructed based on the methodology described in Gompers, Ishii and Metrick (2003). Higher GIndex indicates weaker shareholder rights. Variable is alternatively Distressed (columns (1)-(3)) and Low Leverage (columns (4)-(6)). Distressed equals 1 if the Altman (1968) Z-score is less than 1.81. Leverage is the ratio of total debts (current and long-term) to book value of assets. We partition our sample based on Leverage every year. Low Leverage is a dummy variable that equals 1 if the borrower's Leverage at the time of loan origination places it in the lowest quartile and zero otherwise. Opaque is a dummy variable that takes the value 1 if the borrower has no S&P credit rating at the time of issuance. Relationship is a dummy variable that takes the value 1 if one of the lead banks of the deal was a lead bank of the borrowing firm in the previous five years. # Previous Deals is the number of previous loans the borrower issued in the sample. Asset is the book value of total assets in million dollars (as reported in the Compustat) for the most recent fiscal year preceding the date of loan origination. Facility Amount is the dollar amount of the loan facility reported in constant year 2000 million dollars. The entire sample is sorted based on loan facility amount and divided into three terciles. Large is a dummy variable that equals 1 if the loan amount falls in the top tercile and zero otherwise. Middle equals 1 if loan amount is in the middle tercile and 0 otherwise. Small equals one if the loan amount is in the lowest tercile and 0 otherwise. Maturity is length in months between facility activation date and maturity date. Term Loan equals 1 if the loan type is term loan. All models include Fama-French industry fixed effect, year fixed effects, and loan purpose indicators. Heteroscedastic robust t-statistics controlling for firm cluster effects are reported in parentheses. (*** Significant at one percent level, ** Significant at five percent level ,* Significant at ten percent level)

	(1)	(2)	(3)	(4)	(5)	(6)
	Lead %	Herfindahl	ln(1+#Lenders)	Lead %	Herfindahl	ln(1+#Lenders)
GIndex	-0.1453	-0.0058	0.0033	-0.3071***	-0.0235**	0.0062
	(-1.30)	(-0.59)	(0.71)	(-2.60)	(-2.17)	(1.18)
G x Distressed	-0.6672***	-0.0621***	0.0185*			
	(-3.03)	(-2.75)	(1.71)			
Distressed Firm	8.6989***	0.8000***	-0.1471			
	(3.52)	(3.26)	(-1.50)			
G × Low Leverage				-0.0292	0.0079	0.0054
				(-0.13)	(0.41)	(0.63)
Low Leverage				0.3130	-0.0710	-0.1218
				(0.15)	(-0.38)	(-1.52)
Opaque Firm	6.1378***	0.5296***	-0.1637***	6.2505***	0.5417***	-0.1371**
	(3.98)	(3.91)	(-3.07)	(3.94)	(3.88)	(-2.53)
Relationship	-1.6191**	-0.1516**	0.1105***	-1.5722**	-0.1474**	0.1070***
	(-2.29)	(-2.43)	(3.42)	(-2.22)	(-2.37)	(3.34)
Opaque × Relationship	-0.9431	-0.1146	-0.0581	-1.0660	-0.1268	-0.0601
	(-0.74)	(-1.02)	(-1.19)	(-0.83)	(-1.10)	(-1.23)
Log(1 + # Previous Deals)	-0.1048	0.0060	0.0152	-0.0027	0.0147	0.0136
	(-0.21)	(0.13)	(0.68)	(-0.01)	(0.32)	(0.61)
Opaque × Log(1 + # Previous Deals	-2.7462***	-0.2349***	0.0888***	-2.8097***	-0.2408***	0.0811***
	(-3.24)	(-3.03)	(2.84)	(-3.31)	(-3.10)	(2.59)
Log(Assets)	-2.0403***	-0.1299***	0.0937***	-1.9155***	-0.1183***	0.0941***
	(-5.10)	(-3.41)	(5.26)	(-4.80)	(-3.14)	(5.34)
Amount	-7.6822***	-0.8034***	0.2493***	-7.8847***	-0.8217***	0.2519***
	(-7.97)	(-8.49)	(7.87)	(-8.05)	(-8.63)	(8.08)
Amount × Middle	1.3059	0.2243*	0.1528***	1.6454	0.2544**	0.1473***
	(0.95)	(1.79)	(3.06)	(1.18)	(2.01)	(2.97)
Amount × Large	7.0975***	0.6913***	-0.0042	7.1622***	0.6981***	-0.0071
	(6.39)	(6.77)	(-0.10)	(6.35)	(6.75)	(-0.17)
Maturity	-2.6502***	-0.2454***	0.1290***	-2.5998***	-0.2410***	0.1279***
	(-6.35)	(-6.16)	(6.74)	(-6.20)	(-6.01)	(6.65)
Term Loan	2.6714***	0.1431	0.1328***	2.6857***	0.1426	0.1298***
	(2.62)	(1.53)	(3.88)	(2.63)	(1.52)	(3.80)
Observations	3,223	3,223	3,223	3,223	3,223	3,223
R^2	0.432	0.434	0.586	0.428	0.429	0.586

Table 10
Effect of Changes in Shareholder Rights on Syndicate Structure.

This table provides the OLS estimates of the following model.

$$\begin{aligned}\Delta(Syndicate\ Structure)_i &= \alpha + \Delta(G\ Index)_i\lambda \\ &\quad + \Delta Assets_i\gamma + \Delta Amount_i\delta + \Delta Maturity_i\beta + \epsilon_i\end{aligned}$$

Δ indicates a change in the variable of interest. We employ three dependant variables to proxy for the syndicate structure, % Held by Lead Bank, Herfindahl and #Lenders. % Held by Lead Bank is the LPC reported share of the loan retained by the lead bank at the time of loan origination. In case a loan has multiple lead banks, it is the average of shares reported for all the lead banks. Herfindahl is the sum of squares of loan shares retained by all the syndicate members. # Lenders is the total number of lenders in the syndicate. Gindex measures the shareholder rights. Gindex is obtained from IRRC database and is constructed based on the methodology described in Gompers, Ishii and Metrick (2003). Higher GIndex indicates weaker shareholder rights. Assets is the book value of total assets in million dollars (as reported in the Compustat) for the most recent fiscal year preceding the date of loan origination. Facility Amount is the dollar amount of the loan facility reported in constant year 2000 million dollars. Maturity is length in months between facility activation date and maturity date. In forming the sample, only one loan per firm and period covered by shareholder rights index number is retained. We retain the first loan issued during the period covered by shareholder rights index values. For instance, if shareholder rights index values apply to years 1990–1993, we select the first deal of each firm in the period 1990–1993. All observations for which shareholder rights index remained constant are omitted. Δ GIndex is the change in G index. Δ GIndex$^+$ is a dummy variable that takes the value one if Δ GIndex $\geq +1$, and zero otherwise. Heteroscedastic robust t-statistics are reported in parentheses. (*** Significant at one percent level, ** Significant at five percent level ,* Significant at ten percent level)

	(1)	(2)	(3)	(4)	(5)	(6)
	Δ Lead %	Δ HHI	Δ # Lenders	Δ Lead %	Δ HHI	Δ # Lenders
Δ GIndex	-1.4919**	-139.7793**	0.6491**			
	(-2.29)	(-2.46)	(2.29)			
Δ GIndex $^+$				-3.9410**	-420.9605***	1.7553**
				(-2.38)	(-2.78)	(2.05)
Δ Assets	-0.0001	-0.0052	-0.0000	-0.0001	-0.0042	-0.0000
	(-1.54)	(-0.94)	(-0.43)	(-1.39)	(-0.89)	(-0.54)
Δ Amount	-0.0072***	-0.7050***	0.0074***	-0.0074***	-0.7298***	0.0075***
	(-4.10)	(-4.00)	(5.20)	(-4.04)	(-3.99)	(5.19)
Δ Maturity	-0.0035***	-0.2727***	0.0014**	-0.0034***	-0.2666***	0.0014**
	(-3.01)	(-2.79)	(2.37)	(-2.90)	(-2.75)	(2.26)
Observations	280	280	280	280	280	280
R^2	0.091	0.092	0.204	0.087	0.092	0.201

Table 11
Effect of Shareholder Rights on the Decision to Syndicate.

This table provides the Logit and OLS estimates of the following model.

$$\begin{aligned}(SoleLender)_{it} &= \alpha + (G\ Index)_i\lambda + (Variable)_i\theta_1 \\ &+ [(G\ Index)_i \times (Variable)_i]\theta_2 \\ &+ \mathbf{X}_i\Gamma + \epsilon_i\end{aligned}$$

Columns (1), (3), and (5) report the Logit estimates. Columns (2), (4), and (6) report OLS estimates. The dependant variable is Sole Lender, a dummy variable that takes the value 1 if the loan is funded by a single lender, i.e. the loan is *not* syndicated, 0 otherwise. Gindex measures the shareholder rights. Gindex is obtained from IRRC database and is constructed based on the methodology described in Gompers, Ishii and Metrick (2003). Higher GIndex indicates weaker shareholder rights. Variable is alternatively Distressed (column 2) and Low Leverage (column 3). Distressed equals 1 if the Altman (1968) Z-score is less than 1.81. Leverage is the ratio of total debts (current and long-term) to book value of assets. We partition our sample based on Leverage every year. Low Leverage is a dummy variable that equals 1 if the borrower's Leverage at the time of loan origination places it in the lowest quartile and zero otherwise. Opaque is a dummy variable that takes the value 1 if the borrower has no S&P credit rating at the time of issuance. Facility Maturity is length in months between facility activation date and maturity date. Relationship is a dummy variable that takes the value 1 if one of the lead banks of the deal was a lead bank of the borrowing firm in the previous five years. # Previous Deals is the number of previous loans the borrower issued in the sample. Facility Amount is the dollar amount of the loan facility reported in constant year 2000 million dollars. Secured equals 1 if the loan is secured. All models include Deal Purpose, Industry and Year fixed effects. Columns (1), (3), and (5) (Logit estimates) report the heteroscedastic robust z-statistics controlling for firm cluster effects in parentheses and the *pseudo*-R^2. Columns (2), (4), and (6) (OLS estimates) report the heteroscedastic robust t-statistics controlling for firm cluster effects in parentheses and the R^2. (*** Significant at one percent level, ** Significant at five percent level ,* Significant at ten percent level)

	(1)	(2)	(3)	(4)	(5)	(6)
	Sole Lender	Sole Lender	Sole Lender	Sole Lender	Sole Lender	Sole Lender
GIndex	-0.0299	-0.0041**	-0.0035	-0.0005	0.0225	0.0017
	(-1.50)	(-2.06)	(-0.15)	(-0.21)	(0.92)	(0.76)
G x Distressed			-0.0706*	-0.0091**		
			(-1.82)	(-2.31)		
Distressed Firm			1.0022***	0.1201***		
			(2.62)	(2.85)		
G × Low Leverage					-0.1389***	-0.0183***
					(-3.63)	(-4.07)
Low Leverage					1.4245***	0.1914***
					(3.94)	(4.21)
Opaque Firm	0.4461***	0.0707***	0.4958***	0.0722***	0.4296***	0.0641***
	(4.55)	(6.22)	(4.96)	(6.46)	(4.24)	(5.82)
Maturity	-0.0091***	-0.0011***	-0.0091***	-0.0011***	-0.0090***	-0.0010***
	(-3.54)	(-4.22)	(-3.78)	(-4.13)	(-3.70)	(-3.97)
Relationship	-0.8092***	-0.0932***	-0.7692***	-0.0886***	-0.7638***	-0.0887***
	(-8.85)	(-9.20)	(-8.29)	(-8.72)	(-8.26)	(-8.72)
Log(1 + # Previous Deals)	-0.0100	-0.0020	-0.0380	-0.0049	-0.0059	0.0002
	(-0.11)	(-0.22)	(-0.44)	(-0.52)	(-0.06)	(0.02)
Amount	-0.0027***	-0.0001***	-0.0028***	-0.0001***	-0.0028***	-0.0001***
	(-5.57)	(-10.21)	(-5.86)	(-10.78)	(-5.87)	(-10.96)
Secured	0.0731	0.0189*	0.0264	0.0132	0.1240	0.0231**
	(0.70)	(1.77)	(0.25)	(1.22)	(1.19)	(2.19)
Marginal Effects						
GIndex	-0.0027	-0.0041	-0.0003	-0.0005	0.0020	0.0017
GIndex× Distressed			-0.0062	-0.0091		
GIndex × Low Leverage					-0.0121	-0.0183
Observations	9,726	9,726	9,726	9,726	9,726	9,726
R^2	0.198	0.135	0.215	0.147	0.216	0.150

FIGURE 1
Univariate Analysis

These figures show the univariate test of the impact of the first passage of an antitakeover law (Business Combination, Fair Price, Control Share Acquisition). Bars report mean numbers of each of the syndicate structure indicators, percentage held by lead, Herfindahl index, and the number of lenders, before and after the passage of the law. *Before* is defined as the period that covers relative years [-3, 0] where 0 is the year of the passage of the law. *After* is defined as the period that covers relative years [+1, +3]. The *t*-statistic of the test for difference is reported in the frame. (*** Significant at one percent level, ** Significant at five percent level, * Significant at ten percent level)