Three essays on corporate governance

Chen, Yuzi

2019

Chen, Y. (2019). Three essays on corporate governance. Doctoral thesis, Nanyang Technological University, Singapore.

https://hdl.handle.net/10356/88689

https://doi.org/10.32657/10220/48029

NANYANG TECHNOLOGICAL UNIVERSITY
SINGAPORE

THREE ESSAYS ON CORPORATE GOVERNANCE

CHEN YUZI

NANYANG BUSINESS SCHOOL

2019

THREE ESSAYS ON CORPORATE GOVERNANCE CHEN YUZI 2019

THREE ESSAYS ON CORPORATE GOVERNANCE

CHEN YUZI

CHEN YUZI

NANYANG BUSINESS SCHOOL

A thesis submitted to the Nanyang Technological University in partial fulfilment of the requirement for the degree of Doctor of Philosophy

2019

Statement of Originality

I hereby certify that the work embodied in this thesis is the result of original research, is free of plagiarised materials, and has not been submitted for a higher degree to any other University or Institution.

February 26, 2019 Chen Yuzi

. . . . . .

Date

. . . . . .

CHEN YUZI

Supervisor Declaration Statement

I have reviewed the content and presentation style of this thesis and declare it is free of plagiarism and of sufficient grammatical clarity to be examined. To the best of my knowledge, the research and writing are those of the candidate except as acknowledged in the Author Attribution Statement. I confirm that the investigations were conducted in accord with the ethics policies and integrity standards of Nanyang Technological University and that the research data are presented honestly and without prejudice.

February 26, 2019

. . . . . .

Date

KANG Jun-Koo

. . . . . .

Distinguished Professor Kang Jun-Koo

Authorship Attribution Statement

This thesis contains material from one paper(s) published in the following peer-reviewed journal(s) / from papers accepted at conferences in which I am listed as an author.

Chapter 1 is presented as Ivan E. Brick, Yuzi Chen, Jun-Koo Kang, and Jin-Mo Kim, Does Experience Matter for Hedge Fund Managers? Effects of Industry Expertise on Hedge Fund Activism at

Conference on Pacific Basin Finance, Economics, Accounting, and Management, Rutgers University, New Jersey, 2018

Conference on Asia-Pacific Financial Markets, Seoul, 2018

The contributions of the co-authors are as follows:

- Profs Ivan E. Brick and Jin-Mo Kim provided the initial project direction and data on hedge fund activism and manager biography.
- I co-designed the hypothesis development and data analysis procedures with Prof Jun-Koo Kang and Jin-Mo Kim.
- I conducted all empirical work and interpret the results. I also assist the data collection.
- Profs Ivan E. Brick and Jin-Mo Kim prepared the manuscript drafts. Prof Jun-Koo Kang and I revised the manuscript.

March 28, 2019 Chen Yuzi

. . . .

Date CHEN YUZI

Acknowledgements

First and foremost, I would like to thank my supervisor, Professor Jun-Koo Kang. He has been encouraging me since the beginning of my Ph.D. study. His immense knowledge and experience inspire and help me all the way through exploring research area of interests and conducting research. Without his guidance, patience and generous support, this thesis would not have been possible. As an enthusiastic, diligent, and world renowned expert in finance, he set a good example for my future academic career. I would also like to thank my thesis committee members: Professor Xin Chang, Professor Stephen Geoffrey Dimmock, and Professor Kevin Koh for their invaluable comments, which greatly help me improve my thesis and gain new insights into the topics.

The completion of this thesis is also made possible by the constructive advices and generous supports from Professor Ivan Brick, Professor Jin-Mo Kim, Professor Hyun Seung Na and Professor Jungmin Kim, who I have co-worked with. My gratitude also goes to Professor Tao Chen and Professor Stephen Geoffrey Dimmock, who share and introduce their data generously, and goes to Professor Vicente Cuñat and Professor Caroline Flammer, who are willing to patiently explain details of their methodology for Ph.D. students outside their schools.

I would like to thank Professor Chuan-Yang Hwang, Professor Wu Yuan, Professor Jiang Luo, Professor Zhanhui Chen and Professor Ke Bin for providing me basic and solid training in finance research.

I also want to thank my fellow Ph.D. candidates and seniors who have already graduated for their inspiring discussions and encouragements over the years. In particular, I am grateful to Changhwan Choi, Minsuk Lee, Pingyi Lou, Hyemin Kim, Wei Li, Endong

Yang, Li Zhang, Fangbo Si, Jing Rong Goh, Zhongli He, Xiaoran Huang and Juan Luo. I also want to express my gratitude to my friends Shaobo Li, Lu Chen and Jee Youn Koh for their friendship and suggestions.

Special thanks to the staff in NBS Ph.D. Office and the Division of Banking and Finance, especially Bee Hua Quek, Karen Barlaan and Florence Cher, for their continuous support and help in administrative related matters.

Last but not the least, I owe my deepest appreciation to my parents and other families. Their love and encouragements enable me to get through hard time during the five-year Ph.D. life. Thanks to my parents' supports and contributions, I work and live in Singapore pleasantly. I wish them happiness and health forever.

Table of Contents

Summary

My thesis discusses the corporate governance by hedge fund activists. We also study the impact of corporate governance policy on debtholders and industry peer firms.

In Chapter 1, we examine whether hedge fund managers' experience affects their activism. We find that hedge fund managers are more likely to choose a target that operates in an industry in which they have previous executive and/or outside director experience. Compared to target firms in which hedge fund managers do not have target industry experience, those in which hedge fund managers have target industry experience realize higher abnormal announcement returns and these managers are more likely to serve as a director on the target's board. We further find a significant improvement in target post-acquisition operating performance when hedge fund managers have executive experience in the target industry. These findings suggest that a hedge fund manager's industry expertise is an important source of value gains in hedge fund activism.

In Chapter 2, we investigate whether the effects of antitakeover provisions (ATPs) on debtholder wealth vary depending on corporate ownership structure. Using a regression discontinuity design approach, we find that the cost of bank loans significantly decreases (increases) for family (nonfamily) firms after the passage of close-call shareholder proposals to remove ATPs. The loan-spread-reducing effects of the removal of ATPs for family firms are evident only when they have better governance and are therefore more likely to implement the proposals, when they maintain a debtholder-friendly policy, or when they have lower default risk. Our findings suggest that ownership structure along with a firm's governance quality and default risk is an important factor that determines the effects of ATPs on the cost of debt.

In Chapter 3, we investigate the spillover effect of passing shareholder-sponsored proposals related to removing antitakeover provisions (ATP proposal) on industry peers using a regression discontinuity design (RDD) that relies on locally exogenous variation generated by shareholder proposal votes,. We find that rival firms in the same industry experience negative stock price reactions to the announcement of the passage of an ATP proposal by a voting firm. This negative spillover effect is more pronounced for rival firms operating in industries with low concentration (Herfindahl-Hirschman index), where acquisition activities/approvals are not extensively regulated by antitrust policies and thus the takeover incidence is expected to be high. The negative abnormal returns are also significantly larger for rival firms that are more likely to receive takeover bids ex ante and those with weaker antitakeover defenses than the voting firm before shareholder meeting. These results suggest that although removal of ATPs by a voting firm increases its takeover vulnerability, it reduces the likelihood of peer firms' future takeover, particularly those with weak takeover protections.

Chapter1
Does Experience Matter for Hedge Fund Managers? Effects of Industry Expertise on Hedge Fund Activism

ABSTRACT

In this paper, we examine whether hedge fund managers' experience affects their activism. We find that hedge fund managers are more likely to choose a target that operates in an industry in which they have previous executive and/or outside director experience. Compared to target firms in which hedge fund managers do not have target industry experience, those in which hedge fund managers have target industry experience realize higher abnormal announcement returns and these managers are more likely to serve as a director on the target's board. We further find a significant improvement in target post-acquisition operating performance when hedge fund managers have executive experience in the target industry. These findings suggest that a hedge fund manager's industry expertise is an important source of value gains in hedge fund activism.

JEL Classification: G14, G23, G30, G34
Keywords: Hedge fund activism, Manager, Industry experience, Merger and acquisition, Target, Independent director, Announcement return

Previous literature shows that human capital matters for corporate policies and corporate performance. For example, CEO-specific heterogeneity such as education, personality traits, and work experience affect firm policies (Malmendier and Tate (2005), Kaplan, Klebanov, and Sorensen (2012), Graham, Harvey, and Puri (2013, 2014)). There is also a growing body of research on the impact of human capital on various aspects of money management industry. Gadiesh and MacArthur (2008) and Kaplan and Strömberg (2009) argue that private equity fund managers can use their industry knowledge to identify attractive investments and to develop and implement value-creation plans for their portfolio companies. Chevalier and Ellison (1999) show that mutual fund managers graduated from undergraduate institutions with a higher average SAT score earn higher returns and Gottesman and Morey (2006) find that the average GMAT score of the manager's MBA program is positively related to their fund performance. Li, Zhang, and Zhao (2011) further document that *hedge fund* managers from higher-SAT undergraduate institutions experience higher returns and more inflows for their fund, and take less risk in their investments.

In this paper, we extend the previous literature on the importance of human capital in fund performance by exploring its role, particularly the role of fund managers' industry experience, in hedge fund activism. Fund managers' human capital can be particularly important to hedge funds. The high fee structure of hedge funds incentivizes them to attract good talents that help produce high fund profits.[1] In addition, unlike other institutional investors (e.g., banks and mutual funds) that tend to use an established investment process and a team-oriented approach, hedge funds tend to have a lower number of personnel in

[1] Hedge fund managers typically earn 20% of fund profits as performance fees.

managing the funds, suggesting that the characteristics and abilities of hedge fund managers have significant impact on fund performance. In this context, Grossman (2005) characterizes investing in a hedge fund as investing in a manager, emphasizing the importance of hedge fund managers' human capital in fund success.

To explore the role of human capital in hedge fund activism, we focus on the industry expertise of hedge fund managers that they acquire from their previous industry experience.[2] Industry experience can be particularly important to hedge fund managers because they tend to concentrate their investments in a small number of industries and manage their portfolio with sophistication and entrepreneurship. Unlike mutual funds and pension funds that are open to the public and subject to various federal securities laws, hedge funds cater to more sophisticated investors and are exempt from regulations, which allows them to concentrate their investments in fewer industries than other type of funds.[3] For example, Clifford (2007) documents a high level of industry specialization in the hedge fund industry: about 21% of the hedge funds focus their investments in only one industry. This finding suggests that industry expertise of hedge fund managers play an important role in their investment decisions and performance.

Moreover, the industry expertise can be more valuable to hedge funds than to other institutional investors because hedge fund managers can fully take advantage of their industry expertise in developing and implementing value-creation plans for their target firms due to the special organization characteristics that are unique to hedge funds. For

[2] Human capital literature suggests that human capital can be accumulated through experience of workers (see for example Becker, 1964; Mincer, 1974)

[3] Cohen, Polk, and Silli (2010) argue that the "prudent man" rule makes mutual funds more diversified because they are more likely to face investor litigation when they manage more concentrated funds and perform poorly.

example, hedge funds' characteristics, such as performance-based compensation, longer-lockup period, and lack of regulations in using of leverage and derivatives, provide hedge funds with greater incentives and flexibility to monitor and influence target firm operation.

We argue that the industry expertise that hedge fund managers acquire through their managerial operating experience such as an executive[4] or industry knowledge that they acquire by serving as an outside director or a security analyst[5] can help improve fund profits by allowing them to use their industry-specific knowledge and expertise in selecting attractive targets in which they can exploit their industry expertise and influencing target management in a more effective way. For example, prior industry experience may provide fund managers with important skills to handle business problems and enable them to deal with managerial challenges unique to the industry (Bottazzi, Da Rin, and Hellmann (2008)). Long-standing work experience in the industry also helps build the network with people in the industry and know-how required to identify and respond effectively to promising investment opportunities (Gompers, Kovner, Lerner and Scharfstein (2008)). The human network that hedge fund managers build from their previous work experience provide them with comparative information advantage over competitors, which is an important part of their human capital.[6]

[4] Drucker (1967) defines firm executives as individual with "knowledge works, managers, or individual professionals who are expected by virtue of their position or their knowledge to make decisions in the normal course of their work that have impact on the performance and results of the whole."

[5] Although the hedge fund managers do not have previous executive experience in the target industry, prior non-executive experience can also enable them to better interpret the factors that affect the operations, financial conditions and industries of their targets (Bradley, Gokkaya, and Liu (2017)).

[6] A hedge fund manager with experience in a certain industry can have more connections in that industry. If the hedge fund manager connects with more people in a certain industry, she may communicate with them more frequently and get more information about the industry, which can help them engage in more effective monitoring/advising activities in target firms.

Using biographical information of the hedge fund managers, we classify acquisition targets into two groups, those acquired by hedge funds whose managers have extensive prior industry experience in the target's industry (*Funds with Industry Experience*) and targets acquired by hedge funds whose managers do not have such industry expertise (*Funds with No Experience*).

In this paper, we demonstrate that the industry expertise of the hedge fund manager affects the nature of the hedge fund activism and post-acquisition performance. First, this industry expertise affects target selection. In particular, we find that while the mean and median expected probabilities of firms being acquired by a hedge fund is 4.08% and 3.79%, respectively, the actual fraction of firms purchased by a hedge fund whose manager has experience in target industry experience is 23.2%, indicating that hedge funds are about 6 times more likely to choose targets operating in an industry in which they have previous executive and outside director experience. This finding suggests that hedge funds exhibit a significant bias toward firms in which they have industry expertise. Hedge fund managers who have prior experience in the target industry are also more likely to serve as a director on the target's board than are hedge fund managers with no such experience. These findings suggest that the industry expertise of hedge fund managers has an important effect on their target selection and their incentives to engage in governance activities in target firms.

Second, we find that compared to targets of *Funds with No Experience*, those of *Funds with Industry Experience* realize higher abnormal announcement returns, higher post-acquisition operating performance, a greater reduction in CEO compensation, and a larger decrease in target operating expenses, suggesting that hedge fund managers' operational industry expertise helps improve target value and performance. To examine

whether the superior performance of targets of *Funds with Industry Experience* is due to managerial experience of hedge fund managers as executives in target industry or other experience gained as outside directors and analysts, we divide the *Funds with Industry Experience* targets into two groups, namely, *Funds with Executive Experience* and *Funds with Director/Analyst Experience.* We find that improvement in post-acquisition operating performance is mainly driven by *Funds with Executive Experience*. To the extent that hedge fund managers who acquire the industry expertise through their executive experience have better operational knowledge in the target industry than those who obtain the industry expertise through non-executive experience, these findings suggest that the source of value gains in hedge funds' acquisitions is related to the improvement of operational efficiencies in target firms.

To control for the characteristics of hedge funds that might affect acquisition performance, we compare performance of *Acquisitions with Industry Experience* and that of *Acquisitions with No Industry Experience* by the same hedge funds. We find that even among targets of the same hedge fund managers, outperformance of targets is pronounced only when they have an industry expertise in the target industry, suggesting that superior performance of targets is not driven by funds managers' better skills or abilities at the fund-level but by the fund managers' expertise in specific targets' industry.

Finally, to address endogeneity issue of whether or not hedge fund managers with specialized industry experience are simply good at identifying targets that are more likely to improve firm performance in the future, we examine acquisitions in which the hedge fund first filed a 13G and subsequently filed a 13D with the SEC. We find significant and positive abnormal returns on the 13D filing date. Furthermore, these abnormal returns and

frequency of board representation are significantly higher for *Funds with Industry Experience* than for *Funds with No Experience*, suggesting that the market reacts to new information about shareholder activism, not merely to fund managers' stock picking.

By investigating the effect of hedge fund managers' past experience on hedge fund activism, we extend the existing literature in several important ways. First, to the best of our knowledge, our study is the first to examine the role of human capital in hedge fund activism. We show that *Funds with Industry Experience* are more likely to monitor target management by actively serving as a board member and their targets realize higher abnormal announcement returns and better post-acquisition operating performance. Therefore, our results suggest that human capital that hedge fund managers accumulate through their previous work experience foster monitoring activity and improve firm value and operating performance.

Second, our paper contributes to debate about the source of shareholder gains from hedge fund activism. Previous literature finds that targets of hedge fund activism enjoy significant abnormal returns around the dates of Schedule 13D filings. However, the literature shows mixed evidence on the source of these gains. Klein and Zur (2011) find that most of the gains are derived from the target's bondholders since hedge fund activists pressure target management to disgorge cash and increase leverage. Greenwood and Schor (2009) find that the source of these gains are due to an increase in future takeover likelihood of targets. However, Brav, et al. (2008), Brav, Jiang, and Kim (2015), and Bebchuk, Brav, and Jiang (2015) document that the value increase is largely driven by an increase in target production efficiencies. Unlike these studies, we show that the industry expertise of hedge fund managers, particularly executive experience, constitutes an important source of value

creation in hedge fund activism, suggesting that human capital that hedge fund managers bring to their target firms is an important channel through which hedge funds add value to the target firms.

Finally, our study contributes to the ongoing debate about whether hedge fund activism increases a firm's long-term value. The long-term effects of hedge fund activism (e.g., changes in operating performance following 13D filings) are controversial. For example, while Klein and Zur (2009) and Clifford (2008) find no improvement in mean profits and cash flow following 13D filings, Bebchuk, Brav, and Jiang (2015) find improvements in ROA and Tobin's *q* following the intervention of the activists, suggesting that hedge fund activism is associated with increased long-term firm value. In their recent paper, Cremers et al. (2015) show that after correcting for selection bias, there is no improvement in Tobin's *q* following the intervention of the activists. We show that targets outperform their industry benchmarks when hedge fund managers have previous executive experience in the target industry.

This paper is organized as follows. In Section I, we develop our hypotheses and review previous studies. In Section II, we describe our data and methodology. The empirical results are reported in Section III. Section IV concludes the paper.

I. Main Hypothesis and Literature Review

Previous studies show that CEO characteristics, such as such as education, personal characteristics, and work experience, affect corporate policies and performance (Malmendier and Tate (2005), Kaplan, Klebanov, and Sorensen (2012), Graham, Harvey, and Puri (2013, 2014)). For example, recent studies show that CEOs' previous professional experience affects corporate policies (Benmelech and Frydman (2015), Dittmar and Duchin

(2016), and Schoar and Zuo (2016)) and that professional money manager characteristics affect their portfolio decisions and investment performance (Chevalier and Ellison (1999), Gottesman and Morey (2006), Li, Zhang, and Zhao (2011)). In particular, Gadiesh and MacArthur (2008) and Kaplan and Strömberg (2009) show that money managers use their industry expertise to develop and implement value-creation plans for their targets firms. Industry expertise can be particularly important for hedge fund managers. Unlike mutual fund managers who pool the investments of small investors, hold diversified portfolio, and invest the money with established process and teamwork (Grossman (2005), Li, Zhang and Zhao (2011)), hedge fund managers cater to a few wealthy individuals who agree to lock-up their investment for long time, maintain concentrated holdings, and try to make large risk-adjusted returns.

Industry expertise that hedge fund managers acquire from their previous work experience may allow them to perform better in improving target value and operating performance. First, industry-expert hedge fund managers are better able to identify attractive targets in which they can exploit their industry expertise. Several papers examine the effects of mutual fund managers' prior work experience on their portfolio performance (Chevalier and Ellison (1999), Kacperczyk, Sialm, and Zheng (2005, 2007), Ding and Wermers (2009), Greenwood and Nagel (2009), Kempf, Manconi, Spalt (2013)). In particular, Kacperczyk, Sialm, and Zheng (2005, 2007) find a positive relation between industry concentration in mutual fund holdings and subsequent fund returns, possibly due to their informational advantages in such industries. In addition, Cici et al. (2014) show that mutual funds exhibit superior stock picking ability in industries in which they had prior work experience relative to other industries in which they had no such experience. These

findings suggest that information advantages in industries in which hedge fund managers have prior work experience help them select target firms where they can fully take advantage of their expertise.

Second, compared to managers of other funds, hedge fund managers who have industry-specific knowledge and expertise through their past working experience may be better able to influence the operational decisions of management. Unlike mutual funds, hedge funds are not subject to strict regulations on portfolio concentration and investment strategies. Hedge fund managers also have the flexibility to use leverage and derivative to increase effective ownership stakes in target and hence are more incentivized to monitor and influence target firm operation (Clifford (2008)). While mutual fund managers are compensated in the form of fix management fee, hedge fund managers charge incentive fee. Moreover, hedge fund managers tie their wealth with fund performance and risk their wealth by investing their own money into the fund and by recouping loss before receiving incentive fee, as required by the pervasive high water mark provision.

Finally, unlike mutual funds that provide finance service to portfolio firms, hedge funds are not subject to the conflict of interests. As a result, hedge funds are more likely push target management and boards to change policies through hostile tactics (Brav et al. (2008)). Grossman (2005) argues that hedge funds are a vehicle for acquiring the specialized talents that their managers possess to capture profits from a unique operational strategy. Moreover, if industry expertise that hedge fund managers acquire over their career can equip them to better access and/or process information about an industry, it is likely to help them engage in more effective monitoring/advising activities by exploiting their comparative information advantage over competitors. For example, industry-expert hedge

fund managers may be more effective than non-expert hedge fund managers in their monitoring/advising activities since they are better able to detect problems in targets and deploy target assets in a more productive way. To the extent that hedge fund managers' industry expertise facilitates more effective monitoring/advising, and this in turn translates into better target performance, their targets should experience both higher abnormal announcement returns and better post-acquisition operating performance than other types of targets.

Overall, these arguments suggest that informational advantages arising from past industry experience help hedge fund managers identify undervalued assets and better monitor targets by influencing target mangers to make strategic and operational changes that lead to greater operational efficiencies. Thus, we expect that hedge fund managers are more likely to choose targets operating in industries in which they have experience to exploit their expertise. We also expect that hedge fund managers with industry experience perform a more effective monitoring role and as a result, they are more likely to seek board representation in target boards. Finally, we expect informational advantages of hedge fund managers with industry experience are associated with higher acquisition announcement returns and better post-acquisition operating performance.

II. Data and Descriptive Statistics

A. *Data*

Our initial sample consists of 2,684 activist hedge fund acquisitions from 1994 to 2011 used in Brav, Jiang, and Kim (2015), which is an extension of the dataset of Brav et al. (2008). Using a completed sample of Schedule 13D filings, Brav, Jiang, and Kim (2015)

identify activist hedge funds based on fund names and "Identity and Background" information on 13D filings. They further use web searches and phone calls to filter their samples.[7] We first exclude 89 deals in which the target firm information (PERMNO) or 13D filing date is missing. We also exclude deals in which the target is a financial firm (industries with Fama-French 48 industry codes 44-47) from the sample because they are subjected to regulatory requirements and use accounting practice that make difficult to compare them to firms in non-financial industries. This restriction reduces our sample to 2,149 acquisition events. We then delete from the sample acquisitions by hedge funds whose managers' biographical information is not available. This restriction reduces our sample to 1,940 acquisition events. Finally, we delete acquisitions by hedge funds whose targets' financial and stock return data are not available in Compustat and CRSP, respectively, resulting in a final sample of 1,618 acquisition events, involving 1,258 unique target firms and 353 unique activist hedge funds. [8]

To identify industries in which hedge fund managers have prior industry expertise, we carefully decipher managers' biographies and gather information on their prior experience. Specifically, we examine the biographies of the hedge fund manager using Lipper Hedge Fund Database, the homepage of the hedge fund firm, Bloomberg, LinkedIn, and Google. We classify acquisitions into two groups according to whether hedge fund managers have prior work experience in the target industry. We define industry using the

[7] To obtain activist hedge fund acquisitions, Brav et al (2008) begin with the list of all Schedule 13D filings and exclude non-hedge funds, non-active hedge funds, filers involved in a bankruptcy reorganization or in financing of a distressed firm, files that engage in a merger and acquisition for their risk arbitrage activity, filers whose targets are closed-end fund or other non-regular corporations. This dataset is also used in Bebchuk et al. (2015) and Brav et al. (2015). For a more detailed discussion of data construction, see Brav et al. (2008).

[8] In comparison, Clifford (2008) uses a sample of 778 activist hedge fund acquisitions from 1998 to 2005 and Brav et al. (2008) use a sample of 882 unique firms targeted by activist hedge funds from 2001 to 2006.

Fama-French 48 industry classification. *Funds with Industry Experience* is hedge funds whose managers have extensive prior industry experience in the target's industry (251 acquisitions) and *Funds with No Experience* is hedge funds whose managers do not have specific industry expertise in the target industry (1,367 acquisitions). In the Appendix 1, we provide two examples of hedge fund managers that had prior industry experience in the target industry.

Table 1 shows the sample distribution by year and hedge fund manager experience. We find that hedge fund activism is the highest during the 2005-2008 period (662 acquisition events (41% of the sample)) and the lowest in 1994 and 1995 (34 acquisition events (2% of the sample)). The fraction of *Funds with Industry Experience* accounts for 16% of the sample and their acquisitions also peak during the 2005-2008 period. In untabulated tests, we find that the industry in which hedge fund activism occurs the most frequently is Business Services, Retail, and Drugs (524 acquisition events).

B. Descriptive Statistics

Table 2 compares target and hedge fund manager characteristics between *Funds with Industry Experience* and *Funds with No Experience*. All continuous variables are winsorized at the 1% level in both tails to mitigate the effects of potential outliers. Panel A provides summary statistics for target firms. We measure target characteristics at the fiscal year-end that comes immediately before the announcement of the acquisition of block shares. Appendix 2 provides detailed variable definitions. We find that targets of *Funds with Industry Experience* are more highly valued (i.e., a lower book-to-market ratio (*BM*)) and have poorer performance (i.e., lower return on assets (*ROA*) and low industry adjusted

ROA) than those of *Funds with No Experience*.[9] Compared to targets of *Funds with No Experience*, those of *Funds with Industry Experience* also have a higher ratio of cash to total assets (*TOTcash*), lower leverage (*TOTleverage*), lower dividend yield (*Divyld*), and higher investments (i.e., a higher ratio of capital expenditures to total assets (*Capex*), a higher ratio of research and development expenses to total assets (*R&D*), and a higher ratio of total investment expense (*TOTexpense*)), suggesting that they have more severe free cash flow problems (Jensen (1986)). CEO total compensation (*Tdc1*), CEO option delta (*Optiondelta*), and CEO vega (*Vega*) are similar between targets of *Funds with Industry Experience* and those of *Funds with No Experience*. In sum, these results suggest that hedge fund managers with target industry expertise do not select the targets that are likely to be undervalued but tend to select the targets with high agency problems and operational inefficiencies.

In Panel B of Table 2, we show hedge fund managers' educational background. We find that hedge fund managers of *Funds with Industry Experience* targets are almost three times more likely to major in science fields than those of *Funds with No Experience* targets (14.3% compared to 5.1%). We also find hedge fund managers of *Funds with Industry Experience* are more likely to have a finance and economics educational background (28.7%) than those of *Funds with No Experience* (21.9%).

C. Hedge Fund Profile Differences

[9] Brav et al. (2008a) argue that activist hedge funds resemble value investors, as they tend to target the firms that perform poorly prior to their interventions.

Table 3 compares biographical background of hedge fund managers between *Funds with Industry Experience* and *Funds with No Experience* acquisitions. We focus on three types of employment background: *Directorships* (the number of outside directorships that a hedge fund manager held in all firms before she acquired a target), *Non-top Executives* (the number of firms the hedge fund manager served as a non-top executive such as Vice-President or CFO before she acquired a target), and *Top Executives* (the number of firms that the hedge fund manager served as a CEO or President before she acquired a target). We find that the mean number of *Directorships* for *Funds with Industry Experience* is 4.33, while the corresponding number for *Funds with No* Experience is only 1.58. The difference is significant at the 1% level. Similarly, the mean number of *Non-top Executives* (*Top Executives*) positions for *Funds with Industry Experience* is 0.48 (1.32), which is significantly higher than that for *Funds with No Experience* 0.30 (0.77). These results suggest that managers of *Funds with Industry Experience* tend to have more director and executive experience compared to those of *Funds with No Experience*.

III. Empirical Results

A. Extent of Industry Expertise Bias and Holding Periods of Block Ownership

Our hypothesis predicts that hedge fund managers are more likely to select targets operating in industries in which they have experience. To test this prediction, for each acquisition, we first estimate the expected probability that a target is randomly acquired by a hedge fund assuming that all public firms could be a potential target of hedge funds. Hence, the fraction of all public firms in a certain industry relative to all public firms in the U.S. will be the target's expected probability of being acquired. We use the universe of

public firms from COMPUSTAT. We calculate the mean and median of expected probability that a particular industry is selected for our entire sample of hedge fund managers. The mean and median expected probabilities of being randomly acquired by any hedge fund manager in our sample are 4.08% and 3.79%, respectively. Panel A of Table 4 shows the results. *Funds with Industry Experience* are involved in 1,076 acquisitions, of which 251 targets operate in industries identical to the managers' previous non-financial industrial experience. Therefore, 23.2% of all acquisitions made by this group involve the targets in which their hedge fund managers have prior industry experience. Thus, hedge funds are almost six times more likely to choose targets in industry in which they have industry expertise. These findings suggest that hedge funds exhibit a significant bias toward firms where they have industry expertise, supporting our first hypothesis.

In Panel B of Table 4, we report summary statistics for hedge funds' holding periods of block ownership in target firms. It shows that while 47% of *Funds with Industry Experience* hold block shares for longer than two years, the corresponding number for *Funds with No Industry Experience* is only 38%. Furthermore, 34% of *Funds with Industry Experience* hold block ownership less than one year, in comparison with 41% of *Funds with No Industry Experience*. These differences in holding periods between the two groups are statistically significant at least at the 5% level, indicating that hedge funds with industry experience tend to hold block shares for a longer period of time than those with no industry experience. These findings indicate that activist of *Funds with Industry Experience* hedge funds continue to hold their positions for relatively long periods. These findings also suggest that these hedge funds would not be a "pure" stock picker who sell their positions immediately after the market price reflects their finding that a target's shares were

undervalued (Brav, et al. (2008)). [10] Moreover, if long-term institutional investors actively monitor management while short-term institutional investors behave like passive investors (Bushee (1988)), our results suggest that hedge funds with industry expertise are more likely to monitor target management.

B. Determinants of Target Selection

To provide additional insight into the selectivity process of hedge fund managers as a function of their previous industry experience, we perform logistic regressions in which the dependent variable is an indicator that takes the value of one if the acquisition is made by *Funds with Industry Experience.* The results are reported in Table 5. In column (1), we include target characteristics and year and industry fixed effects. We include as target characteristics the logarithm of the book value of total assets (*Log(AT)*), *TOTleverage* (total debt divided by total assets), *BM* (book value of equity divided by the market value of equity), *Divyld* (common dividend plus preferred dividend divided by the sum of market value of common stocks and book value of preferred stocks), and *Capex* (capital expenditures divided by book value of assets of at the end of prior fiscal year). All these variables are measured at the fiscal-year end immediately before the acquisition. Following Brav et al. (2018), all standard errors are clustered by firm. [11]We find that hedge funds

[10] Our results are also consistent with those of Brav, et al. (2008), who argue that hedge funds' investment horizon is not as short as suggested by critics of hedge fund activism. Based on the analysis of portfolio turnover rates of hedge funds in their sample they show that hedge funds' holding periods is about 20 months.

[11] For robustness check, we also cluster standard errors at fund level in all regressions. The results do not qualitatively change.

whose managers have the same industry experience as the targets are more likely to acquire larger targets, poorly performing targets, and targets that pay lower dividends.

In column (2), we add hedge fund managers' characteristics as additional explanatory variables including *Age* (age of a hedge fund manager at the time of acquisition), *Prox* (indicator that takes the value of one if the target is headquartered in the same state as the hedge fund firm, and zero otherwise), *Ivy league alumnus* (indicator that takes the value of one if the hedge fund managers is an alumnus of an Ivy league university, and zero otherwise), and indicators for the type of degree earned by the hedge fund manager such as an MBA degree (*MBA*), an undergraduate degree in either finance or economics (*Fin/Econ*), an undergraduate degree in science fields (*Science*), and a law degree (*Law*). We control for *Directorships* (the number of a hedge fund manager's previous experience as an outside director in firms operating in industries other than target industry) and *Executives* (the number of a hedge fund manager's previous experience as an executive in firms operating in industries other than target industry) to make sure that our results are not driven by fund mangers' experience in industries other than target industry. We find that hedge fund managers of *Funds with Industry Experience* are more likely to have an MBA degree, have an undergraduate science degree, and currently work for hedge fund firms that are located in the same states as those of the target headquarters. These results, together with those in column (1), suggest that *Funds with Industry Experience* tend to choose the targets that need more monitoring and advising services. Finally, we find that the coefficient on *BM* is negative and significant at the 5% level, indicating that *Funds with Industry Experience* are less likely choose the targets that tend to be undervalued.

C. Likelihood of Board Representation

To further examine whether industry-expert acquirers are more likely to select targets that need better monitoring, in this subsection, we examine whether these acquirers are more likely to seek board representation in their targets compared to non-expert acquirers. Table 6 summarizes the percentage of acquisitions of board representation in targets by industry expertise of hedge fund managers. Since hedge fund managers either seek board membership in targets by themselves or send their representatives, the table distinguishes these different board memberships by "Representation by fund managers" and "Representation by others." We find that *Funds with Industry Experience* are significantly more likely to seek representation on the target's board (i.e. 27.9% of the acquisitions) than *Funds with No Experience* (14.9%). Breaking down board memberships into *Representation by fund managers* and *Representation by others*, we find that the difference in board memberships between the two groups is primarily driven by stronger incentive of hedge fund managers with target industry experience seeking for board directorship themselves. *Representation by fund managers* in *Funds with Industry Experience* is 20.3% of acquisitions, while *Representation by fund managers* in *Funds with No Experience* is only 9.0%. In contrast, *Representation by others* is statistically indistinguishable between the two groups (11.6% compared to 8.1%). These results support our hypothesis that fund managers with target industry experience are more likely to engage in monitoring activities.

Table 7 reports the results of logit regressions in which the dependent variable is an indicator that takes the value of one if the hedge fund manager (her representative) serves on the target board, and zero otherwise. Columns (1) and (2) show the results for the likelihood that the hedge fund manager serves on the board, columns (3) and (4) show the

results for the likelihood that the hedge fund manager's representative serves on the board, and columns (5) and (6) show the results for the likelihood that either the hedge fund manager or her representative serves on the board. The main independent variable of interest is an indicator for *Funds with Industry Experience*. The control variables are the same as those used in Table 5. We find the coefficient on *Funds with Industry Experience* is positive and significant in all regressions except for column (4), suggesting that the likelihood of board representation in target firms by hedge fund managers or their representatives is positively related to hedge fund managers' previous industry experience in the target's industry. The coefficient estimate of 0.079 on *Funds with Industry Experience* in column (6) indicates that all else being equal, the probability of serving as the independent director on target boards by hedge fund managers or their representatives higher for *Funds with Industry Experience* than for *Funds with No Experience* by 7.9 percent. Given that an unconditional probability of serving as the independent director on target boards by hedge fund managers or their representatives for the full sample is 16.9 percent, this number is economically large and significant. Overall, the results in Tables 5 and 6 support our hypothesis that hedge fund managers' human capital affects their activism in targets.

D. Effects of Fund Managers' Industry Experience on Target Announcement Returns and Operating Performance

To examine whether fund managers' industry experience in targets affects target value and performance, in this subsection we compare target cumulative abnormal returns

(CARs) around hedge funds' Schedule 13D filings and post-acquisition target operating performance between *Funds with Industry Experience* and *Funds with No Experience*.

D.1 Target Announcement Returns

Table 8 compares target CARs around 13D filing dates between *Funds with Industry Experience* and *Funds with No Experience*. Abnormal returns are calculated using the market model. The market model parameters are estimated using 200 trading days of return data ending 31 days before the hedge fund's Schedule 13D filing date. We use the CRSP value-weighted stock return as the market portfolio return. Since the William Act requires investors to file Schedule 13D within ten days of the acquisition of more than 5% of a firm's equity (Mikkelson and Ruback (1985)) and it is possible that the Schedule 13D filing occurs after actual purchases of shares are made, there is a possibility that information about hedge funds' share acquisitions may be leaked. Thus, following the previous literature (Brav et al. (2008)), we report the CARs for longer event windows, including CAR (-10, 10), CAR (-20, 20), and CAR (-30, 30). We find that the average CARs (-10, 10), CARs (-20, 20), and CARs (-30,30) for targets of *Funds with Industry Experience* are all significantly greater than those for targets of *Funds with No Experience*, suggesting that industry-expert acquirers have different abilities regarding their activism than non-expert acquirers, which translates into different valuation effects in the stock market. The results support our hypothesis that fund mangers' human capital is an important source of value gain in hedge fund activism.[12]

[12] We also examine the stock market reaction when the hedge fund manager divests shares such that the ownership goes below 5%. We find that reaction to the announcement is not significant for the *Funds with Industry Experienced*, which is consistent with Brav et al (2008) who show that hedge fund exit do not have a positive or negative impact on the stock price.

D.2 Cross-sectional Variation in Target Announcement Returns

To better understand the cross-sectional variation in target announcement returns, we perform ordinary least squares (OLS) regressions in which the dependent variables are CAR (-20, 20) and CAR (-30, 30), respectively. The results are summarized in Table 9. In the first two regressions, we regress CARs (-30, 30) on *Funds with Industry Experience* indicator and control variables. We find that the coefficient on *Funds with Industry Experience* is positive and significant at the 1% level in both regressions. The coefficient estimate of 0.084 for *Funds with Industry Experience* in column (2) suggests that all else constant, abnormal returns for the targets of industry-expert acquirers are higher than those for non-expertise acquirers by 8.4 percent. Thus, the effect of industry expertise on target returns is both statistically and economically significant. In the next two regressions, we use the CAR (-20, 20) as the dependent variable and find that our results do not change.

Turning to control variables, we find that the coefficient on *Prox* is positive and significant. This finding is consistent with Kang and Kim (2008), who show that targets of local block acquirers experience higher abnormal announcement returns. We also find that the CARs are negatively and positively related to *ROA* and *Capex*, respectively.

D.3 Changes in Target Post-Acquisition Operating Performance

If industry expertise that hedge fund managers acquire over their career allows them to better access and process information about an industry, we would expect them to utilize such expertise in their monitoring/advising activities and thus enable their targets to perform better. In particular, hedge fund managers who have acquired their industry expertise

through executive experience may be more effective than those who have acquired their industry expertise through outside director or analyst experience since these hedge fund managers are better able to detect problems in targets and deploy of target assets using their operational experience and skills. Thus, we expect their industry expertise translates into better long-term operating performance of target firms.

We divide *Funds with Industry Experience* into two different subgroups according to type of hedge fund managers' industry experience. The first type of industry experience is a hedge fund manager' experience as an executive in the target industry (*Funds with Executive Experience*). For example, Courage Capital Management acquired more than 5% of outstanding shares of Shoneys Inc., a restaurant chain in July 2000. According to his bio, Richard Patton, the manager of Courage Capital Management, was a founder and CEO of another restaurant group prior to setting up Courage Capital Management. The second type of industry experience is a hedge fund manager' experience as an outside director in the target industry or as a security analyst specializing in the target industry (*Funds with Director/Analyst Experience*).[13]

Table 10 reports the average change in target operating performance for *Funds with Industry Experience* and *Funds with No Experience* from one year prior to the 13D filing to *one* (two, three) year(s) after the 13D filing. $\Delta IndROA_{-1,j}$ is the change in the industry-adjusted return on assets (EBITDA/total assets) from one year prior to the 13D filing to *j* years after the13D filing. We find that $\Delta IndROA_{-1,1}$, $\Delta IndROA_{-1,2}$, and $\Delta IndROA_{-1,3}$ are all positive and significant for targets of *Funds with Industry Experience* but $\Delta IndROA_{-1,1}$ and

[13] There are 108 acquisitions made by funds with executive experience. Hedge fund managers with outside director experience and those with analyst experience, respectively make 138 and 5 acquisitions. Since there are only five hedge fund managers that acquire industry expertise as a security analyst, we group this experience and experience as an outside director as one group.

$\Delta IndROA_{-1,2}$ are negative and significant for those of *Funds with No Experience*. These differences between the two groups are significant at the 1% level.

We then split *Funds with Industry Experience* into *Funds with Executive Experience* and *Funds with Director/Analyst Experience* to examine whether the type of experience matters for target operating performance. Consistent with our prediction, $\Delta IndROA_{-1,1}$, $\Delta IndROA_{-1,2}$, and $\Delta IndROA_{-1,3}$ are all positive and significant for targets of *Funds with Executive Experience* but insignificant for *Funds with Director/Analyst Experience*.[14] These findings indicate that the monitoring/advising activities of hedge fund managers are more effective when they accumulate their industry expertise through executive experience.

In Table 11, we report the results from OLS regressions in which the dependent variables are $\Delta IndROA_{-1,1}$ (columns (1) and (2)), $\Delta IndROA_{-1,2}$ (columns (3) and (4)) and $\Delta IndROA_{-1,3}$ (columns (5) and (6)), respectively. In columns (1), (3) and (5), we find that the coefficients on *Funds with Industry Experience* are positive and significant, suggesting that the targets of hedge funds whose managers have experience in target industry outperform other targets up to three years following the block acquisition. These findings are consistent with Bebchuk, Brav and Jiang (2015), who find improvements in *ROA* following the intervention of hedge fund activists.

In columns (2), (4), and (6), we replace *Funds with Industry Experience* with *Funds with Executive Experience* and *Funds with Director/Analyst Experience*. Consistent with our previous results, we find that the results in the previous three regressions are mainly driven by hedge fund managers' executive experience in target industries. Table 11 also

[14] Klein and Zur (2009) and Clifford (2008), however, find no improvement in post-acquisition mean profits and cash flow for their sample target firms.

shows that a hedge fund manager from an Ivy League school improves operating performance of targets three years after the acquisition.

Overall, these findings support the hypothesis that the monitoring/advising activities of hedge fund managers are more effective when they accumulate their industry expertise through executive experience.

In Panel B of Table 11, we examine whether hedge fund managers' industry expertise is more valuable for targets that need more monitoring/advising. In particular, poor operating performance of the target might indicate inefficient management that requires more monitoring and advising. Alternatively, firms with poor performance may suffer from greater information asymmetries than those with good performance. In that case, the benefits of monitoring by hedge fund managers who have information advantages arising from industry expertise could be more pronounced.[15] We include the interaction terms between hedge fund managers' industry expertise and an indicator for targets with poor operating performance at the time of the acquisitions (*Low ROA*) that takes the value of one if target ROA is below the sample median, and zero otherwise. In column (1) in which the dependent variable is $\Delta IndROA_{-1,1}$, the interaction term between *Funds with Industry Experience* and *Low ROA* and find that its coefficient is positive and significant at the 1% level, suggesting that hedge fund managers' experience in target industry is particularly helpful for poorly performing targets.

[15] Previous studies suggest that firms with poor performance tend to have greater information asymmetry than those with good performance. Lang and Lundholm (1993) and Miller (2002) show that firms are less likely to be forthcoming when they have bad news.

In column (2), we divide *Funds with Industry Experience* with *Funds with Executive Experience* and *Funds with Director/Analyst Experience* and interact these two indicators with *Low ROA*. The results show that the coefficient on the interaction term between *Funds with Executive Experience* and *Low ROA* is positive and significant at 1% level, while that on the interaction term between *Funds with Director/Analyst Experience* and *Low ROA* is insignificant. Thus, targets experience an improvement in their post-acquisition operating performance when hedge fund managers have executive experience in target industry. The results using $\Delta IndROA_{-1,2}$ ($\Delta IndROA_{-1,3}$) as the dependent variable in columns (3) and (4) (columns (5) and (6)) are almost identical.

To the extent that hedge fund managers have better operational expertise in target industry when they acquire their experience as an executive, these findings support the view that hedge fund manager's operation expertise in target industry is an important source of value gains from hedge fund activism.

E. Post-acquisition Changes in CEO Compensation and Other Firm Policies

In this subsection, we examine how post-acquisition CEO compensation and other firm policies are different between firms targeted by hedge funds whose managers have expertise in target industry and those targeted by hedge funds whose managers do not have an expertise in target industry.

In Table 12, we examine post-acquisition changes in managerial total compensation, industry-adjusted leverage, payout (dividends and share repurchase), and investment (capital expenditure, R&D expenditures, and acquisition expenditures) for target firms. First, we find that that firms acquired by *Funds with Executive Experience* have a

significantly more decrease in industry-adjusted CEO total compensation than those acquired by *Funds with No Experience*. For example, while $\Delta Indtdc1_{-1,1}$ is approximately -$4.46 million for firms acquired by *Funds with Executive Experience*, it is only -$0.27 million for those acquired by *Funds with No Experience.* This finding is consistent with Brav et al. (2008). We also find that compared to targets of *Funds with No Experiences*, those of *Funds with Industry Experience* increase payouts and decrease total investment, particularly R&D expenditures, after the acquisitions. A decrease in total investment and R&D expenditures are particularly evident when firms are acquired by *Funds with Executive Experience*, suggesting that these funds implement the strategies that reduce discretionary spending (Klein and Zur (2009)).[16] One might argue that cutting R&D expenditures is not necessarily an improvement. However, we find that post-acquisition long-term ROA (up to three years) of targets of *Funds with Industry Experience* significantly improves, suggesting that the target has previously over invested in R&D. The decrease in capital expenditures and R&D by the targets of the *Funds with Industry Experience* are consistent with the findings of Harford, Kecskes and Mansi (2018) who find a negative relationship between firm's discretionary spending and the increased monitoring associated with an increase in the long-term horizon investors of the firm.

Overall, the results in Table 12 indicate that *Funds with Industry Experience*, particularly *Funds with Executive Experience*, implement policies that reduces the conflict of interest between managers and shareholders by curtailing excessive executive compensation and investments.

[16] In contrast, Klein and Zur (2009) find no change in *R&D* and *Capex*.

F. With-in-fund analysis

Thus far, we have shown that targets of *Funds with Industry Experience* realize higher valuation and higher post-acquisition operating performance compared to those of *Funds with Industry Experience.* However, such the superior performance of targets of *Funds with Industry Experience* could be due to the superior ability of hedge fund managers rather than their industry expertise.

To alleviate the concern that time-invariant fund characteristics drive the differences in our performance results between *Funds with Industry Experience* and *Funds with No Experience* acquisitions, we perform within-fund-analysis. [17] Specifically, we focus only on hedge funds that engage in both types of acquisitions: where a fund manager has expertise in the target industry and where the same fund manager does not have any expertise in target industry. We delete all acquisitions by other hedge fund managers who engage in only one type of acquisition from the analysis. Our final sample consists of 596 acquisitions by 32 unique hedge funds, of which 192 are acquisitions in which hedge fund managers have industry expertise (*Acquisitions with Industry Experience*) and 404 are those in which hedge fund managers have no industry expertise (A*cquisitions with No Industry Experience*). By comparing performance of *Acquisitions with Industry Experience* and that of *Acquisitions*

[17] In unreported tests (see, unreported Table 2), we look at the abnormal return performance and change in industry adjusted ROA for three samples: Acquisitions by hedge fund managers with industry expertise in targets; Acquisitions made by hedge fund managers with industry experience but with no industry experience in the targets; and acquisitions made by hedge fund managers without any industry experience. We find that for both abnormal returns and industry adjusted ROA, the acquisitions by hedge fund managers with industry experience in the targets outperform the acquisitions by hedge fund managers without any industry experience. Moreover, there is, in general, no statistical difference in the performance between acquisitions made by hedge fund managers with industry experience but with no industry experience in the targets and acquisitions made by hedge fund managers without any industry experience. These results suggest that outperformance of targets of *Funds with Industry Experience* is not due to the fund-level skills or abilities of hedge fund managers.

with No Industry Experience by the same hedge funds, we can control for the characteristics of hedge funds that might affect acquisition performance.

Panel A of Table 13 compares the average CARs and post-acquisition operating performance between *Acquisitions with Industry Experience* (sample size = 192) and *Acquisitions with No Industry Experience* (sample size = 404). The results show that *Acquisitions with Industry Experience* result in higher CARs than *Acquisitions with No Industry Experience*: the average CAR (-30, 30) and CAR (-20, 20) for the targets in *Acquisitions with Industry Experience* are 14.4% and 11.6%, respectively, both of which are significant at the 1% level. The corresponding CARs for the targets in *Acquisitions with No Industry Experience* are 6.3% and 5.3%, respectively, both of which are also significant at the 1% level. The differences in average CAR (-30, 30) and CAR(-20, 20) between the two groups are significant at the 1% level.

Turning to post-acquisition operating performance, we find that the average $\Delta IndROA_{-1,1}$, $\Delta IndROA_{-1,2}$, and $\Delta IndROA_{-1,3}$ for the targets in *Acquisitions with Industry Experience* are positive and significant, while the average $\Delta IndROA_{-1,1}$ and $\Delta IndROA_{-1,2}$ for the targets in *Acquisitions with No Industry Experience* are negative and significant. The differences in this post-acquisition operating performance between the two groups is significant. These results suggest that hedge funds' industry expertise plays an instrumental role in improving target performance.

In Panel B of Table 13, we compare average CARs and post-acquisition performance of targets according to the extent of hedge fund manager's industry expertise. We divide the sample used in Panel A of Table 14 according to the sample median ratio (0.286) of the number of *Acquisitions with Industry Experience* to the total number of

acquisitions made by each hedge fund: *Acquisitions with High Industry Expertise Concentration* and *Acquisitions with Low Industry Expertise Concentration*. We find that targets in *Acquisitions with High Industry Expertise Concentration* outperform those in *Acquisitions with Low Industry Expertise Concentration*, further supporting our hypothesis that hedge fund managers' industry expertise is an important factor that affects the value gains arising from hedge fund activism.

Overall, the results from the with-in-fund analysis suggest that outperformance of targets of hedge funds with industry experience is not driven by funds managers' better skills or abilities at the fund-level but by the fund managers' expertise in specific targets' industry.

G. Robustness Tests: Endogeneity

Our results so far indicate that hedge fund managers' industry expertise is an important source of value gains from hedge fund activism. However, our results might be because hedge fund managers with specialized industry experience are simply good at identifying targets that are more likely to improve firm performance in the future.[18]

To address this concern, we follow Brav et al. (2008) and Clifford (2008). A hedge fund files 13G with the SEC if it acquires more than 5% of the target's outstanding shares but has no intention to engage in corporate activism. However, after filing 13G, if the hedge

[18] In table 5, the logit analysis of targeting shows that hedge funds with industry expertise tend to acquire targets with low BM, suggesting that they are less likely to choose undervalued targets. However, it is still possible that hedge funds with industry expertise can choose targets that are more likely to improve firm performance in the future.

fund decides to engage in activism activities, then it is required to file 13D with the SEC. In this case, it is logical to assume that information concerning the hedge fund manager's belief that the target's stock is undervalued would be reflected around the announcement of the 13G filing and the incremental value resulting from any intervention would be reflected in new 13D filings. In our sample, we find 108 acquisitions in which the hedge fund first filed a 13G and subsequently filed a 13D with the SEC. Of those, 17 acquisitions are made by *Funds with Industry Experience* and 91 acquisitions are made by *Funds with No Experience*.

Panel A of Table 14 provides the results for CAR (-20, 20), CAR (-30, 30), CAR(-30, -1), CAR(0, 30), and CAR (-1, 30). We find no significant difference in CARs (-20, 20) and CARs (-30, 30) between acquisitions made by *Funds with Industry Experience* and those made by *Funds with No Experience*. However, this result may not be surprising: the literature focuses on a longer window for 13D events that includes a long pre-announcement period such as CARs (-30, 30) since the law requires investors to file Schedule 13D within ten days of the acquisition of more than 5% of a firm's equity and the Schedule 13D filing may occur after actual purchases of shares are made. It is also possible that there is information leakage even before a hedge fund acquires more than 5% of a target's equity. However, this should not be the case for switchers because they simply change their plans and file Schedule 13D to implement their corporate activism campaign. Consequently, we expect the stock market reaction to occur at or immediately after the 13D filing date (e.g., CAR(0, 30) and CAR(-1, 30)). Indeed, as shown in Figure 1 and Panel A of Table 14, the positive stock reaction starts to begin after the 13D filing date, suggesting that the market reacts to new information about shareholder activism, not merely to fund

managers' stock picking ability. In particular, Panel A shows that the average CAR (-1, 30) for *Funds with Industry Experience* are significantly greater than that for *Funds with No Experience*. Furthermore, Panel B shows that the frequency of board representation is significantly higher for *Funds with Industry Experience* than for *Funds with No Experience*, which suggests that the positive announcement returns are also consistent with the ex post evidence of improved monitoring activities by hedge fund managers.

Overall, these results support the view that that the source of value gains created by hedge fund managers with specialized industry expertise is related to their corporate intervention activities to improve operational efficiency and/or better monitoring of management.

As an additional test, following a similar procedure to that of Brav et al. (2008), Clifford (2008), and Klein and Zur (2009, 2011), we match each target in the hedge fund acquisition by a target firm from the same 10×10 portfolios based on size (market value of equity) and book-to-market ratio in the same year and the same Fama-French 48 industry. Since there are many missing values due to lack of matched firms, to increase the sample size, when there are missing matched firms using the 10×10 portfolios, we find the matched firms from the same 5×5 size/book-to-market ratio sorted portfolios in the same year and the same industry.

In unreported tests (see, unreported table 1), we compare the average changes in matched-firm-adjusted ROA following the acquisitions between targets of *Funds with Industry Experience* and those of *Funds with No Experience* acquisitions. We find that targets of *Funds with Industry Experience* on average realize a significantly larger increase

in matched-firm-adjusted ROA than those of *Funds with No Experience*, which is consistent with our early results. The results using the matched-firm-adjusted median ROA are similar.

H. Robustness Tests: Long-Term Returns

Finally, we examine the long-term returns associated with hedge fund activism. It is possible that return performance of the targets acquired by hedge fund managers with prior industry experience in the target's industry is temporary in nature. Accordingly, we calculate the raw holding period returns and the market adjusted holding return from one month before the 13D filing date through the month that the hedge fund goes below the 5% ownership requirement to continue filing 13D. In addition, we also calculate the Tobin's q at the end of the holding period. For some of the targets, we cannot obtain the exit date, in which case we calculate the return measures for up to three years following the initial filing of 13D. Table 15 summarizes the results for *Funds with Industry Experience* and *Funds with no Industry Experience.* The last two columns present the *p*-values associate with the *t*-statistic of the difference between each of the *Funds with Industry Experience* with targets of the *Funds with no Industry Experience*. The results show that the long run returns and the Tobin's q at the end of the holding period are significantly greater for *Funds with Industry Experience*.

IV. Concluding Remarks

Previous literature shows that the target firm of a hedge fund activism enjoys significant abnormal returns around Schedule 13D filings. However, there is an ongoing debate about the sources of these gains. In this paper, we explore whether the hedge fund manager's human capital could be an important source of value creation. Using biographical information of the hedge fund managers, we identify industries in which hedge fund managers have specialized industry expertise. We find that hedge funds are more likely to choose a target in an industry in which their managers have expertise as an executive or as an outside director/analyst. We also find that targets of industry-expert acquirers realize higher abnormal announcement when hedge fund managers have expertise in target industry. To explain our results, we then examine whether the industry expertise of hedge fund managers influences their governance activities in targets and find that industry-expert acquirers are more likely to serve as a director on the target's board than are hedge fund managers with no such experience in the target industry. Finally, we find that targets realize higher post-acquisition operating performance when industry-expert acquirers obtain their industry expertise from past executive experience in the target industry, suggesting that hedge fund managers' operational experience and expertise increase a firm's long-term value.

Overall, our results suggest that hedge fund manager characteristics substantially influence hedge fund activism and that human capital that hedge fund managers bring to their target firms is an importance source of shareholder gains from hedge fund activism.

References

Bebchuk, Lucian A, Alon Brav, and Wei Jiang, 2015, The long-term effects of hedge fund activism, (National Bureau of Economic Research).

Becker, Gary S., 1964, Human Capital: A Theoretical and Empirical Analysis, New York: National Bureau of Economic Research.

Benmelech, Efraim, and Carola Frydman, 2015, Military ceos, *Journal of Financial Economics* 117, 43-59.

Bottazzi, Laura, Marco Da Rin, and Thomas Hellmann, 2008, Who are the active investors?: Evidence from venture capital, *Journal of Financial Economics* 89, 488-512.

Bradley, Daniel, Sinan Gokkaya, and Xi Liu, 2017, Before an analyst becomes an analyst: Does industry experience matter?, *The Journal of Finance* 72, 751-792.

Brav, Alon, Wei Jiang, and Hyunseob Kim, 2015, The real effects of hedge fund activism: Productivity, asset allocation, and labor outcomes, *Review of Financial Studies* 28, 2723-2769.

Brav, Alon, Wei Jiang, Frank Partnoy, and Randall Thomas, 2008, Hedge fund activism, corporate governance, and firm performance, *The Journal of Finance* 63, 1729-1775.

Chevalier, Judith, and Glenn Ellison, 1999, Are some mutual fund managers better than others? Cross-sectional patterns in behavior and performance, *The Journal of Finance* 54, 875-899.

Cici, Gjergji, Monika Gehde-Trapp, Marc-André Göricke, and Alexander Kempf, 2014, What they did in their previous life: The investment value of mutual fund managers' experience outside the financial sector, (CFR Working Paper).

Clifford, Christopher P, 2008, Value creation or destruction? Hedge funds as shareholder activists, *Journal of Corporate Finance* 14, 323-336.

Cohen, Randolph B, Christopher Polk, and Bernhard Silli, 2010, Best ideas.

Cremers, Martijn, Erasmo Giambona, Simone M Sepe, and Ye Wang, 2015, Hedge fund activism and long-term firm value.

Ding, Bill, and Russ Wermers, 2012, Mutual fund performance and governance structure: The role of portfolio managers and boards of directors.

Dittmar, Amy, and Ran Duchin, 2015, Looking in the rearview mirror: The effect of managers' professional experience on corporate financial policy, *The Review of Financial Studies* 29, 565-602.

Gadiesh, Orit, and Hugh MacArthur, 2008. *Lessons from private equity any company can use* (Harvard Business Press).

Gompers, Paul, Anna Kovner, Josh Lerner, and David Scharfstein, 2008, Venture capital investment cycles: The impact of public markets, *Journal of Financial Economics* 87, 1-23.

Gottesman, Aron A, and Matthew R Morey, 2006, Manager education and mutual fund performance, *Journal of Empirical Finance* 13, 145-182.

Graham, John R, Campbell R Harvey, and Manju Puri, 2013, Managerial attitudes and corporate actions, *Journal of Financial Economics* 109, 103-121.

Graham, John R, Campbell R Harvey, and Manju Puri, 2015, Capital allocation and delegation of decision-making authority within firms, *Journal of Financial Economics* 115, 449-470.

Greenwood, Robin, and Michael Schor, 2009, Investor activism and takeovers, *Journal of Financial Economics* 92, 362-375.

Greenwood, Robin, and Stefan Nagel, 2009, Inexperienced investors and bubbles, *Journal of Financial Economics* 93, 239-258.

Grossman, Sanford J, 2005, Talent required, *The Wall Street Journal*.

Harford, Jarrad, Kecskes, Ambrus, and Mansi, Sattar 2018, Do long-term investors improve corporate decision making?. *Journal of Corporate Finance*, 50, 424-452.

Kacperczyk, Marcin, Clemens Sialm, and Lu Zheng, 2005, On the industry concentration of actively managed equity mutual funds, *The Journal of Finance* 60, 1983-2011.

Kang, Jun-Koo, and Jin-Mo Kim, 2008, The geography of block acquisitions, *The Journal of Finance* 63, 2817-2858.

Kaplan, Steven N, Mark M Klebanov, and Morten Sorensen, 2012, Which ceo characteristics and abilities matter?, *The Journal of Finance* 67, 973-1007.

Kaplan, Steven N, and Per Stromberg, 2009, Leveraged buyouts and private equity, *Journal of Economic Perspectives* 23, 121-46.

Kempf, Elisabeth, Alberto Manconi, and Oliver G Spalt, 2017, Learning by doing: The value of experience and the origins of skill for mutual fund managers.

Klein, April, and Emanuel Zur, 2011, The impact of hedge fund activism on the target firm's existing bondholders, *Review of Financial Studies* 24, 1735-1771.

Klein, April, and Emanuel Zur, 2009, Entrepreneurial shareholder activism: Hedge funds and other private investors, *The Journal of Finance* 64, 187-229.

Li, Haitao, Xiaoyan Zhang, and Rui Zhao, 2011, Investing in talents: Manager characteristics and hedge fund performances, *Journal of Financial and Quantitative Analysis* 46, 59-82.

Malmendier, Ulrike, and Geoffrey Tate, 2005, Ceo overconfidence and corporate investment, *The Journal of Finance* 60, 2661-2700.

Mikkelson, Wayne H, and Richard S Ruback, 1985, An empirical analysis of the interfirm equity investment process. Working Paper, MIT

Mincer, Jacob, 1974, Schooling, Experience, and Earnings, New York: National Bureau of Economic Research.

Peter, F Drucker, 1967, The effective executive, *New York, Harper&Row*.

Schoar, Antoinette, and Luo Zuo, 2016, Does the market value ceo styles?, *American Economic Review* 106, 262-66.

Zheng, Lu, Marcin Kacperczyk, and Clemens Sialm, 2007, Industry concentration and mutual fund performance.

Appendix 1: Identification of Industry Expertise:

Below we provide a biographical summary of two hedge fund managers to indicate industry experience.

Case 1: Mr. Behring is a co-founder of 3G Capital, a global investment firm, and has been its managing partner and a director since 2004. In 2007, his hedge fund company acquired a stake in CSX Corporation, a U.S. rail-based transportation company. Prior to this acquisition, Mr. Behring served for seven years, from 1998 through 2004, as CEO of America Latina Logistica (ALL), Latin America's largest railroad and logistics company and as a director of ALL until December 2011. Thus, we assume that Mr. Behring has an industry expertise in the target firm (CSX Corporation) because he had significant experience as a CEO and a director of railroad in Latin America.

Case 2: Kevin C. Tang is the President of Tang Capital Management, LLC, a life sciences-focused hedge fund company he founded in 2002. In 2009, Mr. Tang purchased a block ownership in Penwest Pharmaceuticals Co. Previously, Mr. Tang held various positions at Deutsche Banc Alex Brown, Inc., an investment banking firm, serving as Managing Director and head of the firm's Life Sciences research group. In 2006, Mr. Tang co-founded Ardea Biosciences, Inc., a pharmaceutical company, and served as a director from its inception through its acquisition by AstraZeneca PLC in 2012. From 2001 to 2008, Mr. Tang was a director of Trimeris, Inc., a bioscience company. We assume that Mr. Tang has an industry expertise in the target firm (Penwest Pharmaceuticals Co).

Appendix 2: Definitions of Target Characteristic Variables

Variable	Definition	Data source
Firm characteristics		
AT ($1,000,000)	The book value of total assets.	Compustat
MV ($1,000,000)	The market value of common shares outstanding.	Compustat
BM	The book value of equity divided by market value of equity.	Compustat
Tobin's q	The sum of market value of equity and book value of debt divided by the sum of book value of equity and book value of debt.	Compustat
TOTleverage	The sum of long-term and short-term debt divided by total assets.	Compustat
LTleverage	The ratio of long-term debt to total assets.	Compustat
Divyld	The common dividend plus preferred dividend divided by the sum of market value of common stocks and book value of preferred stocks.	Compustat
TOTpayout	The sum of dividend and share repurchases scaled by market value of equity at the beginning of fiscal year.	Compustat
TOTcash	The sum of the cash holding and short term investments divided by total assets	Compustat
Capex	The capital expenditures and R&D expense divided by the book value of total assets at end of prior fiscal year.	Compustat
R&D	The research and development expense divided by the book value of assets at end of prior fiscal year.	Compustat
TOTexpense	The sum of the capital expenditures, R&D and acquisition expense divided by the book value of total assets at end of prior fiscal year.	Compustat
ROA	Earnings before interest, taxes, depreciation, and amortization divided by the book value of assets at end of prior fiscal year.	Compustat
Tdc1 ($1,000)	The total contracted CEO pay including options value granted.	ExecuComp
Optiondelta	The change in the dollar value of the CEO options holding for a 1% change in the market value of common stock.	ExecuComp, CRSP
Vega	The change in the dollar value of the CEO wealth for a 1% change in the annualized standard deviation of stock returns.	ExecuComp, CRSP
CAR	CAR(*i*,*j*) the cumulative abnormal returns from day *i* to day *j*, where t = 0 is the announcement date (the date that the hedge fund manager files SC-13D form with the SEC). The abnormal returns is estimated using the market model with parameters estimated using 200 trading days of return data ending 31 days before the shareholder meeting. The CRSP value-weighted return is used as the market return.	CRSP
Fund characteristics		
Sciences	Dummy variable equals one if the hedge fund manager concentrated in one of the sciences	TASS, web search

	(e.g. science, technology, engineering, and mathematics), and zero otherwise.	
Fin/Econ	Dummy variable equals one if the hedge fund manager concentrated in Finance or Economics, and zero otherwise.	TASS, web search
MBA	Dummy variable equals one if the key hedge fund manager earned an MBA degree, and zero otherwise.	TASS, web search
Law	Dummy variable equals one if the hedge fund manager has a law degree, and zero otherwise.	TASS, web search
Ivy League Alumnus	Dummy variable equals one if the hedge fund manager is an alumnus of one of the Ivy League schools, and zero otherwise.	TASS, web search
Age	The age of the hedge fund manager at the time of acquisition.	TASS, web search
Directorships	The number of a hedge fund manager's previous experience as an outside director in firms operating in industries other than target industry.	TASS, web search
Executives	The number of a hedge fund manager's previous experience as an executive in firms operating in industries other than target industry.	TASS, web search
Top Executives	The number of firms that the hedge fund manager served as a CEO or President before acquisition.	TASS, web search
Non-top executives	The number of firms the hedge fund manager served as a non-top executive such as Vice-President or CFO before acquisition.	TASS, web search
Prox	Dummy variable equal to one if the target is headquartered in the same state as the hedge fund manager, and zero otherwise.	TASS, web search
Funds with Industry Experience	Dummy variable equal to one if the hedge fund manager had extensive prior industry experience in the target's industry, and zero otherwise.	TASS, web search
Funds with Executive Experience	Dummy variable equal to one if the hedge fund manager previously served as an executive or manager in the target's industry, and zero otherwise.	TASS, web search
Funds with Director/Analyst Experience	Dummy variable equal to one if the hedge fund manager served either as an outside director or a stock analyst for a specific industry of the target, and zero otherwise.	TASS, web search

Table 1: Sample distribution. This table summarizes the number of hedge fund acquisitions by year for the full sample and by acquisition type. An acquisition belongs to the *Funds with Industry Experience* if the biography indicates that the hedge fund manager has extensive prior industry experience in the target's industry. *Funds with No Experience* acquisitions are those acquisitions made by a hedge fund manager who did not have specific industry expertise in the target's industry.

Year	Full Sample	*Funds with Industry Experience*		*Funds with No Experience*	
	Number of Acquisitions	Number of Acquisitions	Fraction of Acquisitions (%)	Number of Acquisitions	Fraction of Acquisitions (%)
1994	8	0	0.00	8	100.00
1995	26	0	0.00	26	100.00
1996	60	3	5.00	57	95.00
1997	109	5	4.59	104	95.41
1998	80	16	20.00	64	80.00
1999	55	9	16.36	46	83.64
2000	63	6	9.52	57	90.48
2001	52	12	23.08	40	76.92
2002	71	15	21.13	56	78.87
2003	78	8	10.26	70	89.74
2004	82	11	13.41	71	86.59
2005	136	29	21.32	107	78.68
2006	161	23	14.29	138	85.71
2007	184	35	19.02	149	80.98
2008	181	32	17.68	149	82.32
2009	76	18	23.68	58	76.32
2010	100	19	19.00	81	81.00
2011	96	10	10.42	86	89.58
Total	1618	251	15.51	1367	84.49

Table 2: Summary statistics of target characteristics. This table summarizes the target characteristics (Panel A) and Hedge Fund Manager Characteristics (Panel B) of full sample, *Funds with Industry Experience* acquisitions and *Funds with No Experience* acquisitions. An acquisition belongs to the *Funds with Industry Experience* if the biography indicates that the hedge fund manager had extensive prior industry experience in the target's industry. *Funds with No Experience* acquisitions are those acquisitions made by a hedge fund manager who did not have specific industry expertise in the target's industry. Total assets (*AT*) is defined as book value of total assets; book to market ratio (*BM)* defined as book value of equity divided by the market value of equity; firm leverage (*TOTleverage)* defined as the sum of long- and short-term debt divided by total assets; dividend yield (*Divyld*) defined as the common dividend plus preferred dividend divided by the sum of market value of common stocks and book value of preferred stocks; total payout (*TOTpayout*) defined as the sum of dividends and share repurchases scaled by market value of equity at the beginning of fiscal year; cash holdings (*TOTcash)* defined as the sum of the cash holding and short term investments divided by total assets; return on assets (*ROA)* defined as the earnings before interest, depreciation and amortization divided by the book value of assets of at the end of prior fiscal year; *IndROA* is the industry adjusted ROA,total capital expenditures (*Capex)* defined as the capital expenditures divided by book value of assets of at the end of prior fiscal year; R&D expense (*R&D)* defined as the research and development expense divided by book value of assets of at the end of prior fiscal year; total CEO compensation (*Tdc1)* defined as the total contracted CEO pay including options value granted; delta of the CEO options holding (*Optiondelta*) defined as change in the dollar value of the CEO options holding for a 1% change in the market value of common stock; vega of CEO wealth (*Vega*) defined as the change in the dollar value of the CEO wealth for a 1% change in the annualized standard deviation of stock returns. CAR(*i,j*) represents the cumulative abnormal returns from day *i* to day *j*, where $t = 0$ is the announcement date (the date that the hedge fund manager files SC-13D form with the SEC). *MBA* is a dummy variable equal to one if the key hedge fund manager earned an MBA degree; *Fin/Econ* is a dummy variable equals one if the hedge fund manager concentrated in Finance or Economics; *Science* is a dummy variable equals one if the hedge fund manager concentrated in one of the sciences; and *Law* is a dummy variable equals one if the hedge fund manager has a law degree; *Ivy League Alumnus* equals one if the hedge fund manager is an alumnus of one of the Ivy League schools; and *age* is the age of the hedge fund manager at the time of acquisition. All variables are defined in the appendix. All data are winsorized at 1%/99% percentile. The numbers in the test-of-difference columns denote p-values. The symbols ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A Target Firm Characteristics

Variables	Full Sample		*Funds with Industry Experience*		*Funds with No Experience*		Test of Difference	
	Mean	Median	Mean	Median	Mean	Median	*t*-test *p-values*	Wilcoxon *z*-test *p-values*
AT	908.675	191.092	879.718	227.9	914.153	187.139	0.822	0.357
BM	0.729	0.541	0.636	0.495	0.747	0.552	0.023**	0.024**
TOTleverage	0.227	0.165	0.198	0.084	0.233	0.181	0.040**	0.001***
Divyld	0.008	0	0.004	0	0.008	0	0.001***	0.000***
TOTpayout	0.029	0.004	0.024	0.004	0.03	0.004	0.213	0.496
TOTCash	0.22	0.118	0.326	0.228	0.201	0.105	0.000***	0.000***
ROA	0.036	0.099	-0.082	0.074	0.059	0.103	0.000***	0.000***
IndROA	-0.026	0.003	-0.096	-0.006	-0.012	0.003	0.000***	0.116
Capex	0.068	0.035	0.072	0.035	0.067	0.035	0.448	0.799
R&D	0.074	0	0.157	0.012	0.058	0	0.000***	0.000***
TOTexpense	0.187	0.102	0.271	0.148	0.171	0.096	0.000***	0.000***
Tdc1 ($1000)	3,997.37	2,244.66	4,563.52	2,176.25	3,885.30	2,273.19	0.418	0.782
Optiondelta	180.616	79.356	220.611	72.279	172.842	80.02	0.338	0.419
Vega	110.281	42.311	138.421	40.773	104.742	44.016	0.353	0.778
Panel B Hedge Fund Manager Characteristics								
Science	0.066	0	0.143	0	0.051	0	0.000***	0.000***
Fin/Econ	0.23	0	0.287	0	0.219	0	0.020**	0.020**
Law	0.059	0	0.04	0	0.062	0	0.167	0.167
MBA	0.467	0	0.474	0	0.465	0	0.796	0.796
Ivy League Alumnus	0.589	1	0.596	1	0.587	1	0.802	0.802
Age	59.674	58	60.108	56	59.594	58	0.537	0.568

Table 3: Hedge Fund Manager Profile by Industry Expertise Groups. This summarizes professional biographical differences between *Funds with Industry Experience* acquisitions and *Funds with No Experience* acquisitions. An acquisition belongs to the *Funds with Industry Experience* if the biography indicates that the hedge fund manager had extensive prior industry experience in the target's industry. *Funds with No Experience* acquisitions are those acquisitions made by a hedge fund manager who did not have specific industry expertise in the target's industry. *Directorships* is defined as the number of outside directorships that a hedge fund manager held in all firms before she acquired a target; *Non-top Executives* defines as the number of firms the hedge fund manager served as a non-top executive such as Vice-President or CFO before she acquired a target; *Top Executives* defined as the number of firms that the hedge fund manager served as a CEO or President before she acquired a target. The numbers in the test-of-difference columns denote *p*-values for *t*-statistics. The symbols ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Variables	*Funds with Industry Experience* (A)	*Funds with No Experience* (B)	Test of the Difference (A-B)
Directorships	4.327	1.582	0.000***
Non-top Executives	0.478	0.304	0.000***
Top Executives	1.323	0.772	0.000***

Table 4: Extent of Industry Expertise Bias and Holding Periods of Block Ownership

Panel A summarizes the percentage of targets acquired whose fund manager have prior industry experience. Panel B summarizes hedge funds' holding periods of block ownership in target firms. An acquisition belongs to the *Funds with Industry Experience* if the biography indicates that the hedge fund manager had extensive prior industry experience in the target's industry. *Funds with No Experience* acquisitions are those acquisitions made by a hedge fund manager who did not have specific industry expertise in the target's industry. The numbers in the test-of-difference columns denote *p*-values for *t*-statistics. The symbols ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Extent of Industry Expertise Bias	
The actual fraction of targets acquired by a hedge fund whose fund manager has an industry experience in the target industry	23.2%
Expected probability of being acquired by a hedge fund whose fund managers has an industry experience in the target industry	
Mean	4.08%
Median	3.79%

Panel B: Distribution by holding periods of block ownership

Holding period	*Funds with Industry Experience* (A)	*Funds with No Experience* (B)	Test of Difference (A-B)
Less than one year	34%	41%	0.03**
More than one year	66%	59%	0.03**
More than two years	47%	38%	0.01***
More than three years	31%	27%	0.16

Table 5: Logit Regression Estimates (Marginal Effects) of the industry expertise acquisitions on target and fund manager characteristics. This table presents the estimates of logit regressions of industry expertise indicator on firm and fund manager characteristics. The dependent variable is a dummy variable equals one if acquisition is made by a hedge fund manager who has previously served as an executive or an outside director or a security analyst in the target's industry (*Funds with Industry Experience)*. *Log (AT)* is defined as the logarithm of total assets; *TOTleverage* is defined as total debt divided by total assets; *ROA is* defined as the earnings before interest, depreciation and amortization divided by the book value of assets at the end of prior fiscal year; *BM* is defined as book value of equity divided by the market value of equity; *Divyld* is the common dividend plus preferred dividend divided by the sum of market value of common stocks and book value of preferred stocks; *Capex* is defined as the capital expenditures divided by book value of assets of at the end of prior fiscal year; *Ivy League Alumnus* equals one if the hedge fund manager graduated from an Ivy League school; *Directorships* is the number of a hedge fund manager's previous experience as an outside director in firms operating in industries other than target industry*; Executives* is the number of a hedge fund manager's previous experience as an executive in firms operating in industries other than target industry; *Prox* is a dummy variable equal to one if the target is headquartered in the same state as the hedge fund manager; *MBA* is a dummy variable equal to one if the key hedge fund manager earned an MBA degree; *Fin/Econ* is a dummy variable equal to one if the hedge fund manager concentrated in Finance or Economics; *Science* is a dummy variable equal to one if the hedge fund manager concentrated in one of the sciences; and *Law* is a dummy variable equal to one if the hedge fund manager has a law degree. Robust *p*-values are in parentheses. All standard errors are clustered by firm. The symbols ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Variables	(1)	(2)
Log (AT)	0.022***	0.008
	(0.001)	(0.266)
TOTleverage	-0.053	0.000
	(0.303)	(0.998)
ROA	-0.137***	-0.124***
	(0.000)	(0.000)
BM	-0.025	-0.036**
	(0.117)	(0.033)
Divyld	-1.995***	-2.249***
	(0.002)	(0.002)
Capex	0.041	0.027
	(0.713)	(0.801)
Age		-0.001
		(0.503)
Directorships		0.020***
		(0.000)
Executives		0.012
		(0.162)
Prox		0.062***
		(0.008)
Ivy League alumnus		-0.004
		(0.850)
MBA		0.054***
		(0.006)
Fin/Econ		0.022
		(0.353)
Science		0.144***
		(0.000)
Law		0.011
		(0.797)
Year FE	Yes	Yes
Industry FE	Yes	Yes
Observations	1,419	1,370
Pseudo R-square	0.111	0.213

Table 6: The Percentage of Board Representation Activity in Targets by Industry Expertise of Hedge Fund Managers. This table reports the percentage of acquisitions of key hedge fund managers and/or non-key hedge fund managers from the hedge fund company sitting on targets' board by industry expertise group. *Funds with Industry Experience* are those acquisitions whereby the hedge fund manager has previously served as an executive or an outside director or a security analyst in the target's industry. *Funds with No Experience* acquisitions are those acquisitions made by a hedge fund manager who did not have specific industry expertise in the target's industry. The numbers in the test-of-difference columns denote *p*-values for *t*-statistics. The symbols ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Variables	*Funds with Industry Experience* (A)	*Funds with No Experience* (B)	Test of Difference (A-B)
Representation by fund managers	20.30%	9.00%	0.000***
Representation by others	11.60%	8.10%	0.075
All hedge fund representation	27.90%	14.90%	0.000***

Table 7: Logit Regression Estimates (Marginal Effects) of the Board Representation on Industry Expertise of Hedge Fund. This table presents the estimates of logit regressions of key hedge fund managers and/or non-key hedge fund managers from the hedge fund company sitting on targets' board on industry expertise indicators, firm and hedge fund manager characteristics. *Funds with Industry Experience* are those acquisitions whereby the hedge fund manager has previously served as an executive or an outside director or a security analyst in the target's industry. *Log (AT)* is defined as the logarithm of total assets; *TOTleverage* is defined as total debt divided by total assets; *ROA is* defined as the earnings before interest, depreciation and amortization divided by the book value of assets at the end of prior fiscal year; *BM* is defined as book value of equity divided by the market value of equity firm; *Divyld* is the common dividend plus preferred dividend divided by the sum of market value of common stocks and book value of preferred stocks; *Capex* is defined as the capital expenditures divided by book value of assets of at the end of prior fiscal year; *Ivy League Alumnus* equals one if the hedge fund manager graduated from an Ivy League school; *Directorships* is the number of a hedge fund manager's previous experience as an outside director in firms operating in industries other than target industry*; Executives* is the number of a hedge fund manager's previous experience as an executive in firms operating in industries other than target industry; *Prox* is a dummy variable equal to one if the target is headquartered in the same state as the hedge fund manage; *MBA* is a dummy variable equal to one if the key hedge fund manager earned an MBA degree; *Fin/Econ* is a dummy variable equal to one if the hedge fund manager concentrated in Finance or Economics; *Science* is a dummy variable equal to one if the hedge fund manager concentrated in one of the sciences; and *Law* is a dummy variable equal to one if the hedge fund manager has a law degree. Robust *p*-values are in parentheses. All standard errors are clustered by firm. The symbols ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Variables	Representation by fund managers		Representation by others		All Hedge Fund Representation	
	(1)	(2)	(3)	(4)	(5)	(6)
Funds with Industry Experience (Indicator)	0.097***	0.092***	0.034*	0.004	0.108***	0.079***
	(0.000)	(0.000)	(0.080)	(0.851)	(0.000)	(0.003)
Log(AT)	-0.012*	-0.007	0.012**	0.005	-0.004	-0.005
	(0.091)	(0.307)	(0.037)	(0.379)	(0.634)	(0.524)
TOTleverage	0.058	0.034	0.045	0.054	0.053	0.042
	(0.143)	(0.398)	(0.193)	(0.129)	(0.273)	(0.384)
ROA	0.068	0.094**	-0.030	-0.042	0.024	0.027
	(0.132)	(0.036)	(0.569)	(0.482)	(0.696)	(0.676)
BM	0.016	0.008	0.013	0.011	0.027*	0.017
	(0.146)	(0.502)	(0.245)	(0.400)	(0.057)	(0.254)
Divyld	0.277	0.211	-0.678	-0.760	-0.195	-0.274
	(0.491)	(0.619)	(0.183)	(0.170)	(0.710)	(0.623)
Capex	0.099	0.117	-0.082	-0.104	0.028	0.020
	(0.185)	(0.108)	(0.306)	(0.247)	(0.789)	(0.857)
Age		-0.002***		0.000		-0.001
		(0.003)		(0.952)		(0.121)
Directorships		-0.005		0.008***		0.006
		(0.159)		(0.003)		(0.128)
Executives		0.024***		-0.000		0.019**
		(0.000)		(0.943)		(0.022)
Prox		0.020		0.004		0.002
		(0.351)		(0.855)		(0.941)
Ivy League alumnus		-0.016		0.027		-0.006
		(0.372)		(0.118)		(0.794)
MBA		-0.063***		-0.011		-0.056**
		(0.002)		(0.508)		(0.013)
Fin/Econ		0.009		0.009		0.014
		(0.707)		(0.649)		(0.605)
Science		-0.019		0.028		0.016
		(0.570)		(0.363)		(0.668)
Law		0.051		-0.085*		0.013
		(0.143)		(0.070)		(0.774)
Year FE	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y
Observations	1,398	1,349	1,419	1,370	1,450	1,401
Pseudo R-square	0.071	0.128	0.058	0.091	0.064	0.095

Table 8: Cumulative Abnormal Returns (CARs) for Targets around the Announcement Date. This table summarizes the targets' average cumulative abnormal returns around 13D filing by industry expertise group. *Funds with Industry Experience* are those acquisitions whereby the hedge fund manager has previously served as an executive or an outside director or a security analyst in the target's industry. *Funds with No Experience* acquisitions are those acquisitions made by a hedge fund manager who did not have specific industry expertise in the target's industry. CAR(*i*,*j*) represents the cumulative abnormal returns from day *i* to day *j*, where t = 0 is the announcement date (the date that the hedge fund manager files SC-13D form with the SEC). The numbers in the test-of-difference columns denote *p*-values for *t*-statistics. The symbols ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Variables	*Funds with Industry Experience* (A)	*Funds with No Experience* (B)	Test of Differences (A-B)
CAR(-30,-2)	0.047***	0.016***	0.042**
	(0.005)	(0.008)	
CAR (+2,+30)	0.072***	0.023***	0.000***
	(0.000)	(0.000)	
CAR (-10,+10)	0.087***	0.054***	0.011**
	(0.000)	(0.000)	
CAR (+20,+20)	0.127***	0.060***	0.000***
	(0.000)	(0.000)	
CAR (+30,+30)	0.151***	0.061***	0.000***
	(0.000)	(0.000)	

Table 9: OLS Regression of Cumulative Abnormal Returns for Targets. This table reports the estimates of OLS regressions of cumulative abnormal return around 13D filing on industry expertise indicators, firm and hedge fund manager characteristics. *Funds with Industry Experience* are those acquisitions whereby the hedge fund manager has previously served as an executive or an outside director or a security analyst in the target's industry. *Log (AT)* is defined as the logarithm of total assets; *TOTleverage* is defined as total debt divided by total assets; *ROA is* defined as the earnings before interest, depreciation and amortization divided by the book value of assets at the end of prior fiscal year; *BM* is defined as book value of equity divided by the market value of equity firm; *Divyld* is the common dividend plus preferred dividend divided by the sum of market value of common stocks and book value of preferred stocks; *Capex* is defined as the capital expenditures divided by book value of assets of at the end of prior fiscal year; *Ivy League Alumnus* equals one if the hedge fund manager graduated from an Ivy League school; *Directorships* is the number of a hedge fund manager's previous experience as an outside director in firms operating in industries other than target industry; *Executives* is the number of a hedge fund manager's previous experience as an executive in firms operating in industries other than target industry; *Prox* is a dummy variable equal to one if the target is headquartered in the same state as the hedge fund manage; *MBA* is a dummy variable equal to one if the key hedge fund manager earned an MBA degree; *Fin/Econ* is a dummy variable equal to one if the hedge fund manager concentrated in Finance or Economics; *Science* is a dummy variable equal to one if the hedge fund manager concentrated in one of the sciences; and *Law* is a dummy variable equal to one if the hedge fund manager has a law degree. Robust *p*-values are in parentheses. All standard errors are clustered by firm. The symbols ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Variables	(1) CAR(-30,30)	(2) CAR(-30,30)	(3) CAR(-20,20)	(4) CAR(-20,20)
Funds with Industry Experience (Indicator)	0.081***	0.084***	0.061***	0.061**
	(0.003)	(0.005)	(0.009)	(0.013)
Log of book value of total assets	-0.004	-0.003	-0.005	-0.006
	(0.471)	(0.573)	(0.253)	(0.214)
TOTLeverage	0.012	0.015	-0.008	-0.013
	(0.749)	(0.714)	(0.822)	(0.727)
ROA	-0.103**	-0.096**	-0.068**	-0.067*
	(0.026)	(0.043)	(0.048)	(0.054)
BM	0.007	0.002	-0.005	-0.006
	(0.617)	(0.917)	(0.690)	(0.643)
Divyld	-0.636	-0.656	-0.195	-0.196
	(0.162)	(0.170)	(0.674)	(0.688)
Capex	0.217*	0.204*	0.177*	0.153
	(0.059)	(0.081)	(0.053)	(0.109)
Age		-0.000		0.001
		(0.863)		(0.404)
Directorships		0.002		0.001
		(0.556)		(0.851)
Executives		-0.005		-0.003
		(0.537)		(0.706)
Prox		0.050*		0.037*
		(0.057)		(0.099)
Ivy League alumnus		-0.023		-0.009
		(0.233)		(0.555)
MBA		-0.030		-0.029*
		(0.137)		(0.071)
Fin/Econ		0.001		0.003
		(0.961)		(0.885)
Science		-0.027		-0.022
		(0.538)		(0.560)
Law		-0.013		-0.059**
		(0.710)		(0.041)
Year FE	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y
Observations	1,447	1,398	1,446	1,397
Adjusted R-squared	0.033	0.036	0.027	0.034
F-statistics	2.234	2.145	2.177	2.097

T**able 10: Change in Industry-adjusted Operating Performance Following Block Share Purchase.** This table summarizes the average change in (Fama French 48) industry adjusted operating performance by industry expertise group. $\Delta IndROA_{i,j}$ is the industry-adjusted change in firms' return on asset (*ROA*) from fiscal *i* to fiscal year *j*. *Funds with Industry Experience* are those acquisitions whereby the hedge fund manager has previously served as an executive or an outside director or a security analyst in the target's industry. *Funds with Executive Experience* are those (108) acquisitions whereby the hedge fund manager has previously served as an executive in a firm in the target's industry. *Funds with Director/Analyst Experience* (153) acquisitions are those acquisitions made by hedge fund managers who previously served as an outside director or a security analyst in the target's industry. *Funds with No Experience acquisitions* are those acquisitions whereby the hedge fund manager has no specific or specialized knowledge of the target's industry. The numbers in the test-of-difference columns denote *p*-values for *t*-statistics. The symbols ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Variables	*Funds with Industry Experience* (A)	*Funds with Industry Experience*		*Funds with No Experience* (D)	Test of Difference (A-D)	Test of Difference (B-D)	Test of Difference (C-D)
		Funds with Executive Experience (B)	*Funds with Director/Analyst Experience* (C)				
$\Delta IndROA_{1,1}$	0.070**	0.155**	0.008	-0.020***	0.000***	0.000***	0.149
	(0.018)	(0.010)	(0.758)	(0.001)			
$\Delta IndROA_{1,2}$	0.099**	0.205**	0.030	-0.014**	0.000***	0.000***	0.047*
	(0.013)	(0.024)	(0.305)	(0.038)			
$\Delta IndROA_{1,3}$	0.096**	0.215**	0.009	-0.005	0.000***	0.000***	0.529
	(0.020)	(0.017)	(0.749)	(0.465)			

Table 11: OLS Regression of Operating Performance Changes. This table reports the estimates of OLS regressions of targets' change in operating performance on industry expertise indicators, firm and hedge fund manager characteristics**.** Panel A presents the results of regression controlling for industry expertise indicators. *Funds with Industry Experience* indicator equals one if the acquisition is made by a hedge fund manager who was either an executive of a firm, outsider director of a firm or specialized security analysts of the target's industry. $\Delta IndROA_{i,j}$ is the industry-adjusted change in variable *ROA* from fiscal *i* to fiscal year *j*. ROA is defined as the ratio of EBITDA to the total assets of the target of the previous fiscal year. *Funds with Executive Experience* are those acquisitions whereby the hedge fund manager has previously served as an executive in a firm in the target's industry. *Funds with Director/Analyst Experience* acquisitions are those acquisitions made by hedge fund managers who previously served as an outside director or a security analyst in the target's industry. *Funds with No Experience* acquisitions are those acquisitions whereby the hedge fund manager has no specific or specialized knowledge of the target's industry. Panel B shows the results of regressions controlling for interaction terms of industry expertise indicators and indicator for poor performance. A target is defined as *Low ROA* firm if its *ROA* at the time of 13-D filing announcement is below the sample median. *Log (AT)* is defined as the logarithm of total assets; *TOTleverage* is defined as total debt divided by total assets; *ROA is* defined as the earnings before interest, depreciation and amortization divided by the book value of assets at the end of prior fiscal year; *BM* is defined as book value of equity divided by the market value of equity firm; *Divyld* is the common dividend plus preferred dividend divided by the sum of market value of common stocks and book value of preferred stocks; *Capex* is defined as the capital expenditures divided by book value of assets of at the end of prior fiscal year; *Ivy League Alumnus* equals one if the hedge fund manager graduated from an Ivy League school; *Directorships* is the number of a hedge fund manager's previous experience as an outside director in firms operating in industries other than target industry*; Executives* is the number of a hedge fund manager's previous experience as an executive in firms operating in industries other than target industry; *Prox* is a dummy variable equal to one if the target is headquartered in the same state as the hedge fund manage; *MBA* is a dummy variable equal to one if the key hedge fund manager earned an MBA degree; *Fin/Econ* is a dummy variable equal to one if the hedge fund manager concentrated in Finance or Economics; *Science* is a dummy variable equal to one if the hedge fund manager concentrated in one of the sciences; and *Law* is a dummy variable equal to one if the hedge fund manager has a law degree. Robust p-values are in parentheses. All standard errors are clustered by firm. The symbols ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A Operating Performance of Target Firms after Hedge Fund Activism

Variables	(1) $\Delta IndROA_{-1,1}$	(2) $\Delta IndROA_{-1,1}$	(3) $\Delta IndROA_{-1,2}$	(4) $\Delta IIndROA_{-1,2}$	(5) $\Delta IndROA_{-1,3}$	(6) $\Delta IndROA_{-1,3}$
Funds with Industry Experience (Indicator)	0.071***		0.088**		0.091**	
	(0.009)		(0.011)		(0.014)	
Funds with Executive Experience (Indicator)		0.148***		0.177**		0.186**
		(0.005)		(0.018)		(0.014)
Funds with Director/Analyst Experience(Indicator)		0.013		0.028		0.022
		(0.590)		(0.335)		(0.499)
Log(AT)	0.001	0.000	0.000	-0.001	-0.001	-0.002
	(0.871)	(0.986)	(0.959)	(0.929)	(0.828)	(0.741)
TOTleverage	0.039	0.041	0.040	0.042	0.068*	0.073*
	(0.287)	(0.244)	(0.343)	(0.302)	(0.099)	(0.071)
BM	0.009	0.009	0.009	0.009	0.008	0.007
	(0.354)	(0.364)	(0.430)	(0.445)	(0.520)	(0.565)
Divyld	0.563	0.606	0.723	0.779*	0.848	0.926*
	(0.149)	(0.121)	(0.107)	(0.082)	(0.115)	(0.085)
Capex	0.213	0.202	0.285	0.281	0.280	0.269
	(0.230)	(0.242)	(0.229)	(0.224)	(0.282)	(0.283)
Age	-0.001	-0.001	-0.001*	-0.001*	-0.002**	-0.002*
	(0.143)	(0.159)	(0.079)	(0.083)	(0.049)	(0.052)
Directorships	-0.002	-0.001	-0.003	-0.001	-0.003	-0.001
	(0.354)	(0.809)	(0.318)	(0.674)	(0.404)	(0.819)
Executives	0.004	-0.000	-0.001	-0.005	-0.002	-0.007
	(0.448)	(0.965)	(0.941)	(0.416)	(0.826)	(0.316)
Prox	0.015	0.015	0.021	0.020	0.015	0.014
	(0.468)	(0.450)	(0.368)	(0.374)	(0.513)	(0.541)
Ivy League alumnus	0.018	0.019	0.009	0.009	0.031*	0.031*
	(0.208)	(0.193)	(0.576)	(0.570)	(0.056)	(0.054)
MBA	-0.006	-0.008	0.002	-0.000	-0.011	-0.015
	(0.676)	(0.578)	(0.912)	(0.993)	(0.529)	(0.405)
Fin/Econ	-0.003	0.003	0.022	0.028	0.028	0.035
	(0.841)	(0.861)	(0.324)	(0.221)	(0.220)	(0.138)
Science	-0.024	-0.043	0.006	-0.016	-0.033	-0.058

	(0.551)	(0.275)	(0.923)	(0.767)	(0.516)	(0.252)
Law	-0.017	-0.020	-0.043	-0.044	-0.019	-0.020
	(0.438)	(0.351)	(0.274)	(0.262)	(0.556)	(0.535)
Year FE	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y
Observations	1,295	1,295	1,110	1,110	1,003	1,003
Adjusted R-squared	0.042	0.052	0.041	0.050	0.054	0.066
F-statistics	1.545	1.577	1.367	1.349	1.619	1.608

Panel B Operating Performance of High vs. Low *ROA* Target Firms after Hedge Fund Activism

Variables	(1) $\Delta IndROA_{-1,1}$	(2) $\Delta IndROA_{-1,1}$	(3) $\Delta IndROA_{-1,2}$	(4) $\Delta IndROA_{-1,2}$	(5) $\Delta IndROA_{-1,3}$	(6) $\Delta IndROA_{-1,3}$
Funds with Industry Experience (Indicator)	-0.017		-0.008		-0.000	
	(0.430)		(0.766)		(0.991)	
*Funds with Industry Experience (Indicator)*Low ROA(Indicator)*	0.134***		0.138**		0.135**	
	(0.006)		(0.022)		(0.033)	
Funds with Executive Experience (Indicator)		-0.031		-0.023		0.020
		(0.322)		(0.631)		(0.682)
Funds with Director/Analyst Experience (Indicator)		-0.007		0.001		-0.010
		(0.790)		(0.986)		(0.782)
*Funds with Executive Experience (Indicator) *Low ROA(Indicator)*		0.262***		0.264**		0.228*
		(0.003)		(0.019)		(0.053)
*Director/Analyst Experience (Indicator)) * Low ROA(Indicator)*		0.025		0.035		0.042
		(0.578)		(0.495)		(0.448)
Low ROA (Indicator)	0.099***	0.098***	0.136***	0.134***	0.145***	0.144***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Log (AT)	0.007	0.006	0.008	0.006	0.007	0.006
	(0.227)	(0.308)	(0.218)	(0.274)	(0.216)	(0.289)
TOTleverage	0.057	0.059*	0.056	0.058	0.084**	0.088**
	(0.112)	(0.085)	(0.170)	(0.141)	(0.033)	(0.022)
BM	-0.009	-0.007	-0.015	-0.015	-0.019	-0.019
	(0.412)	(0.497)	(0.215)	(0.237)	(0.167)	(0.163)
Divyld	0.480	0.546	0.569	0.626	0.728	0.806
	(0.201)	(0.147)	(0.198)	(0.155)	(0.166)	(0.126)
Capex	0.298*	0.285*	0.394*	0.382*	0.411	0.393
	(0.088)	(0.089)	(0.091)	(0.087)	(0.108)	(0.105)
Age	-0.001	-0.001	-0.002*	-0.001*	-0.002**	-0.002**
	(0.135)	(0.146)	(0.055)	(0.062)	(0.031)	(0.034)
Directorships	-0.002	-0.000	-0.002	-0.001	-0.002	-0.001
	(0.496)	(0.886)	(0.471)	(0.702)	(0.502)	(0.838)
Executives	0.004	0.001	-0.001	-0.003	-0.002	-0.006
	(0.478)	(0.850)	(0.911)	(0.622)	(0.767)	(0.423)
Prox	0.011	0.015	0.018	0.024	0.017	0.020
	(0.599)	(0.434)	(0.413)	(0.269)	(0.436)	(0.351)
Ivy League alumnus	0.014	0.015	0.002	0.004	0.021	0.024
	(0.338)	(0.291)	(0.921)	(0.814)	(0.188)	(0.134)
MBA	-0.010	-0.014	-0.002	-0.006	-0.016	-0.020
	(0.472)	(0.331)	(0.919)	(0.751)	(0.356)	(0.230)
Fin/Econ	-0.014	-0.006	0.008	0.017	0.014	0.023
	(0.383)	(0.709)	(0.685)	(0.439)	(0.509)	(0.284)
Science	-0.029	-0.054	-0.003	-0.027	-0.046	-0.074
	(0.455)	(0.161)	(0.956)	(0.604)	(0.340)	(0.134)
Law	-0.030	-0.035*	-0.053	-0.055	-0.031	-0.033
	(0.147)	(0.091)	(0.166)	(0.157)	(0.299)	(0.272)
Year FE	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y
Observations	1,295	1,295	1,110	1,110	1,003	1,003

Adjusted R-squared	0.101	0.116	0.114	0.125	0.138	0.151
F-statistics	3.444	3.356	3.335	3.237	3.482	3.350

Table 12: Change in Firm Policies. This table provides the average changes in the (Fama French 48) industry adjusted measures of CEO compensation, firm capital structure, investment, and payout policies. $\Delta X_{i,j}$ is the industry-adjusted change in variable *X* from fiscal *i* to fiscal year *j*. *ΔIndIndtdc1* is the industry adjusted total CEO compensation. *IndLTleverag* is the industry adjusted ratio of long term debt to total assets; *IndTOTpayout* is the industry adjusted payout to common shareholder, where payout is the ratio of the sum of dividends and share repurchase to the market value of equity at the beginning of the year; *IndCapex* is the industry adjusted capital expenditures divided by book value of assets of at the end of prior fiscal year*; IndR&D* is the industry adjusted research and development expense divided by the book value of assets at end of prior fiscal year; *IndTOTpayout* is the sum of capital expenditures, R&D and acquisition expense divided by the book value of total assets at end of prior fiscal year. The *Funds with Industry Experience* are those acquisitions whereby the hedge fund manager has previously served as an executive, outside director and/or specialize security analyst in the target's industry; *Funds with Executive Experience* acquitions are those acquisitions whereby the hedge fund manager has previously served as an executive in a firm in the target's industry. *Funds with Director/Analyst Experience* acquisitions are those acquisitions made by hedge fund managers who previously served as an outside director or a security analyst in the target's industry. *Funds with No Experience* acquisitions are those acquisitions whereby the hedge fund manager has no specific or specialized knowledge of the target's industry. The numbers in the test-of-difference columns denote *p*-values for *t*-statistics. The symbols ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Variables	*Funds with Industry Experience* (A)	*Funds with Industry Experience*		*Funds with No Experience* (D)	Test of Difference (A-D)	Test of Difference (B-D)	Test of Difference (C-D)
		Funds with Executive Experience (B)	*Funds with Director/Analyst Experience* (C)				
ΔIndtdc1$_{-1,1}$	-1,593.169 (0.207)	-4,460.643 (0.240)	-221.769 (0.676)	-265.329 (0.347)	0.116	0.004**	0.957
ΔIndLTleverage$_{-1,1}$	0.018 (0.157)	0.030 (0.201)	0.009 (0.513)	0.008* (0.075)	0.410	0.206	0.964
ΔIndTOTpayout$_{-1,1}$	0.025*** (0.010)	0.018 (0.261)	0.031** (0.015)	0.006** (0.018)	0.009**	0.269	0.006**
ΔIndCapex$_{-1,1}$	-0.019*** (0.003)	-0.028** (0.017)	-0.012* (0.091)	-0.013*** (0.000)	0.362	0.098	0.868
ΔIndR&D$_{-1,1}$	-0.060*** (0.001)	-0.107*** (0.005)	-0.026* (0.068)	-0.007*** (0.001)	0.000***	0.000***	0.017*
ΔIndTOTexpense$_{-1,1}$	-0.082*** (0.001)	-0.155*** (0.002)	-0.029 (0.219)	-0.032*** (0.000)	0.021*	0.000***	0.884
ΔIndtdc1$_{-1,2}$	-92.518 (0.927)	-2,154.724 (0.288)	797.980 (0.492)	-41.226 (0.865)	0.942	0.053	0.279
ΔIndLTleverage$_{-1,2}$	0.030 (0.140)	0.075** (0.049)	0.001 (0.979)	0.015** (0.011)	0.358	0.015*	0.457
ΔIndTOTpayout$_{-1,2}$	0.011* (0.053)	0.007 (0.317)	0.013* (0.099)	0.019*** (0.000)	0.384	0.421	0.620
ΔIndCapex$_{-1,2}$	-0.033** (0.018)	-0.055* (0.097)	-0.018** (0.010)	-0.016*** (0.000)	0.067	0.005**	0.868
ΔIndR&D$_{-1,2}$	-0.063*** (0.004)	-0.126** (0.011)	-0.022 (0.152)	-0.008*** (0.002)	0.000***	0.000***	0.115
ΔIndTOTexpense$_{-1,2}$	-0.111*** (0.000)	-0.197*** (0.001)	-0.054** (0.019)	-0.036*** (0.000)	0.002**	0.000***	0.525
ΔIndtdc1$_{-1,3}$	-1,805.725 (0.178)	-3,669.829 (0.403)	-1,032.804 (0.138)	-905.565** (0.038)	0.43	0.182	0.915
ΔIndLTleverage$_{-1,3}$	0.036 (0.148)	0.081* (0.068)	0.004 (0.900)	0.022*** (0.002)	0.486	0.045*	0.449
ΔIndTOTpayout$_{-1,3}$	0.021*** (0.004)	0.029** (0.036)	0.016* (0.053)	0.019*** (0.000)	0.858	0.613	0.867
ΔIndCapex$_{-1,3}$	-0.037** (0.020)	-0.063* (0.080)	-0.017** (0.013)	-0.015*** (0.000)	0.021*	0.001***	0.834
ΔIndR&D$_{-1,3}$	-0.055** (0.019)	-0.141*** (0.009)	0.008 (0.385)	-0.008*** (0.004)	0.000***	0.000***	0.076
ΔIndTOTexpense$_{-1,3}$	-0.099*** (0.002)	-0.201*** (0.004)	-0.021 (0.267)	-0.028*** (0.001)	0.002**	0.000***	0.800

Table 13: Within Fund Performance of the Funds with Industry Experience. This table reports the targets' average performance around 13D filing announcement using the sample consisting of acquisitions by a hedge fund that is involved with both industry and non-industry expertise. Panel A compares the overall performance of the hedge fund managers whose targets are classified as *Acquisitions with Industry Experience* with those that do not (*Acquisitions with No Industry Experience*). In Panel B we dichotomize the sample by the percentage of total number of acquisitions of the hedge fund manager that are regarded as *Funds with Industry Experience*. We rank each hedge fund manager by the ratio of *Funds with Industry Experience* acquisitions to the total number of acquisitions made by the hedge fund manager. Acquisitions by those hedge funds with a ratio higher than the sample median are considered to have high concentration of industrial experience (*Acquisitions with High Industry Expertise Concentration*) and acquisitions by those lower than the sample median are *Acquisitions with Low Industry Expertise Concentration*. *CAR(i,j)* represents the cumulative abnormal returns from day i to day j, where $t = 0$ is the announcement date (the date that the hedge fund manager files SC-13D form with the SEC). *ΔIndROA* is the industry adjusted *ROA* of the target where *ROA* is defined as the ratio of EBITDA to the total assets of the target of the previous fiscal year. The numbers in the test-of-difference columns denote *p*-values for *t*-statistics. The symbols ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A Within-fund Performance Analysis

Variables	Acquisitions with Industry Experience (A)	Acquisitions with No Industry Experience (B)	Test of Difference (A-B)
CAR(-30,30)	0.144***	0.063***	0.003***
	(0.000)	(0.000)	
CAR(-20,20)	0.116***	0.053***	0.006***
	(0.000)	(0.000)	
$\Delta IndROA_{-1,1}$	0.066*	-0.020**	0.001***
	(0.062)	(0.016)	
$\Delta IndROA_{-1,2}$	0.097**	-0.027***	0.001***
	(0.048)	(0.002)	
$\Delta IndROA_{-1,3}$	0.091*	-0.013	0.004***
	(0.074)	(0.182)	

Panel B Performance by Fund Industry Expertise Concentration

Variables	High Industry Expertise Concentration (A)	Low Industry Expertise Concentration (B)	Test of Difference (A-B)
CAR(-30,30)	0.126***	0.053***	0.005***
	(0.000)	(0.001)	
CAR(-20,20)	0.099***	0.049***	0.019**
	(0.000)	(0.000)	
$\Delta IndROA_{-1,1}$	0.032	-0.015	0.062*
	(0.166)	(0.183)	
$\Delta IndROA_{-1,2}$	0.069**	-0.040***	0.001***
	(0.035)	(0.000)	
$\Delta IndROA_{-1,3}$	0.068**	-0.027***	0.004***
	(0.043)	(0.006)	

Table 14: Abnormal Returns of SC-13G to SC-13D switchers. This table reports the average cumulative abnormal return surrounding SC-13D filing dates and board representation frequency of a sample of targets in which we observe a switch from schedule 13G filing to schedule 13D filing. Panel A summarizes the cumulative abnormal return surrounding the 13G-to13D (hedge fund switch from 13G to 13D filing) dates. Panel B summarizes the frequency of key hedge fund managers and/or non-key hedge fund managers from the hedge fund company sitting on targets' board after 13D filings. *Funds with Industry Experience* acquisitions are acquisitions whereby the hedge fund manager has either served as an executive, outsider director or a specialized security analysts within the target's industry prior to its acquisition. *Funds with No Experience* acquisitions are those acquisitions made by a hedge fund manager who did not have specific industry expertise in the target's industry. *CAR(i,j)* represents the cumulative abnormal returns from day *i* to day *j*, where $t = 0$ is the announcement date (the date that the hedge fund manager files SC-13D form with the SEC). The numbers in the test-of-difference columns denote *p*-values for *t*-statistics. The symbols ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Panel A Target Firm Cumulative Abnormal Return around 13D Filing Date

Variables	*Funds with Industry Experience* (A)	*Funds with No Experience* (B)	Test of Difference (A-B)
CAR (-20,20)	0.048 (0.604)	0.013 (0.707)	0.804
CAR (-30,30)	0.048 (0.604)	0.013 (0.707)	0.690
CAR (-30,-1)	-0.075 (0.304)	-0.044* (0.071)	0.620
CAR (0,+30)	0.139** (0.020)	0.058*** (0.007)	0.133
CAR (-1,+30)	0.155** (0.020)	0.053** (0.017)	0.071*

Panel B Frequency of Board Representation Activity in Targets by Industry Expertise of Hedge Fund Managers

Variables	*Funds with Industry Experience* (A)	*Funds with No Experience* (B)	Test of Difference (A-B)
Representation by fund managers	0.412*** (0.004)	0.133*** (0.000)	0.006***
Representation by others	0.059 (0.332)	0.067** (0.013)	0.906
All hedge fund representation	0.412*** (0.004)	0.189*** (0.000)	0.044**

Table 15: Long-Term Returns for Targets around the Announcement Date. This table summarizes the targets' averagebuy and hold raw returns and market adjusted hold returns beginning in the month prior to the announcement date defined as 13D filing date through the month in which the funds exit, and the target's Tobin's q at the end of holding period. Exit is defined as the date on which the ownership drops below 5%. If no exit information is available, we assume that the holding lasts until three years after the acquisition announcement date. . *Funds with Industry Experience* are those acquisitions whereby the hedge fund manager has previously served as an executive or an outside director or a security analyst in the target's industry. *Funds with No Experience* acquisitions are those acquisitions made by a hedge fund manager who did not have specific industry expertise in the target's industry. The numbers in the test-of-difference columns denote *p*-values for *t*-statistics. The symbols ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Variables	*Funds with Industry Experience* (A)	*Funds with No Experience* (B)	Test of Difference (A-B)
Market Adjusted Returns	0.567*** (0.000)	0.066* (0.088)	0.000***
Raw Returns	1.741*** (0.000)	1.298*** (0.000)	0.000***
Hold_Tobin's q	2.407*** (0.000)	1.623*** (0.000)	0.000***

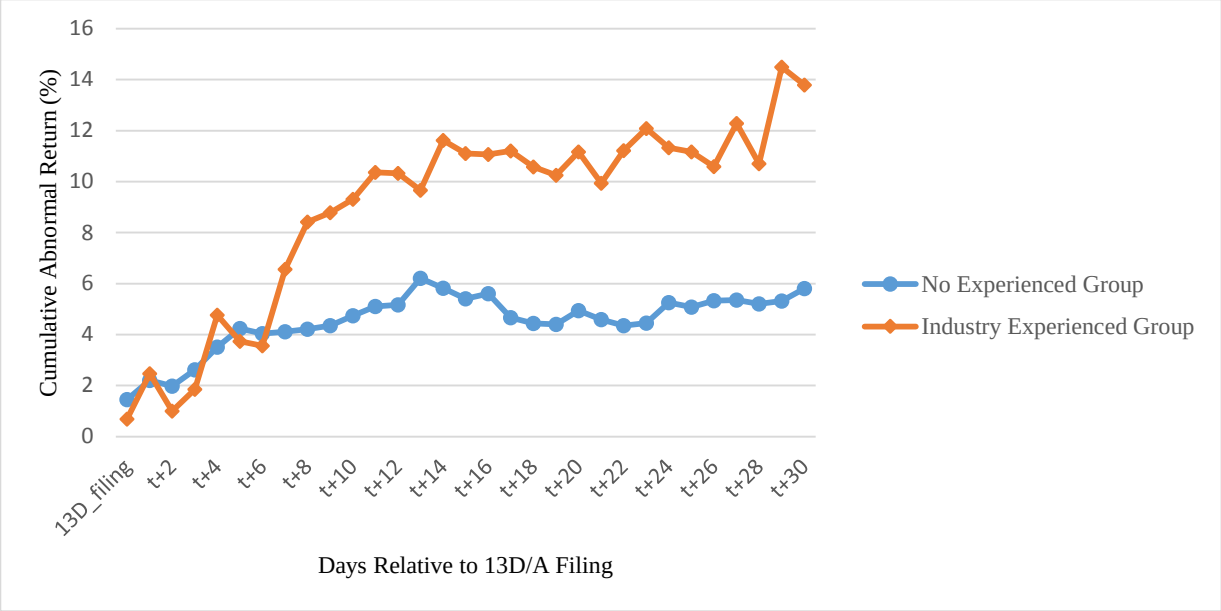


Figure 1 Cumulative Abnormal Returns over (*t, t+30*) at Schedule 13D/A Filing (Hedge Fund Activists Switching from Schedule 13G to Schedule 13D). The x-axis indicates days relative to 13D/A filing. Two lines plot average *CAR(0, +30)* around the SC 13D filing dates a sample of targets in which we observe a switch from schedule 13G filing to schedule 13D/A filing. The line jointed by diamonds represents the *Funds with Industry Experience* acquisitions whereby the hedge fund manager has either served as an executive, outsider director or a specialized security analysts within the target's industry prior to its acquisition. The line jointed by round dots represent *Funds with No Experience* acquisitions made by a hedge fund manager who did not have specific industry expertise in the target's industry.

Unreported Table 1: Change in matched-firm adjusted Operating Performance Following Block Share Purchase. This table reports the average change in operating performance adjusted the mean of performance of matched firms by industry expertise group. The matched firms are defined as firms falling into the same 10×10 portfolios based on size (*MV*) and book-to-market ratio (*BM*) in the same year and the same Fama-French 48 industry classification as the target firms. For targets firms that miss matched firms in the 10×10 portfolios, we redefine the matched firms by 5×5 portfolios. $\Delta ROAmatch_{i,j}$ is the matched-firm adjusted change in return on asset from fiscal *i* to fiscal year *j*. The *Funds with Industry Experience* are those acquisitions whereby the hedge fund manager has previously served as an executive, outside director and/or specialize security analyst in the target's industry; *Funds with No Experience* acquisitions are those acquisitions whereby the hedge fund manager has no specific or specialized knowledge of the target's industry. The numbers in the test-of-difference columns denote *p*-values for *t*-statistics. The symbols ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Variable	*Funds with Industry Experience* (A)	*Funds with No Experience* (B)	Test of Difference (A-B)
$\Delta ROAmatch_{-1,1}$	0.076 (0.310)	-0.014 (0.439)	0.090*
$\Delta ROAmatch_{-1,2}$	0.118 (0.263)	0.022 (0.321)	0.164
$\Delta ROAmatch_{-1,3}$	0.383*** (0.111)	-0.037 (0.079)	0.000***

Unreported Table 2: Relative Performance for Targets. This table reports the targets' average performance around 13D filing announcement using the sample consisting of acquisitions by hedge fund managers with and without industry experience. *CAR(i,j)* represents the cumulative abnormal returns from day i to day j, where $t = 0$ is the announcement date (the date that the hedge fund manager files SC-13D form with the SEC). *ΔIndROA* is the industry adjusted *ROA* of the target where *ROA* is defined as the ratio of EBITDA to the total assets of the target of the previous fiscal year. The numbers in the test-of-difference columns denote *p*-values for *t*-statistics. The symbols ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

	Acquisitions by hedge fund with industry experience in targets		Acquisitions made by hedge fund with industry experience but without industry experience in targets		Acquisitions made by hedge fund without industry experience		Test of difference: t-statistic p-values	
	(A)		(B)		(C)		(B-C)	(A-C)
	N	mean	N	mean	N	mean	mean	mean
CAR(-10,+10)	250	0.087	488	0.068	867	0.046	0.033**	0.004***
CAR(-30,+2)	250	0.047	489	0.024	869	0.011	0.262	0.034**
CAR(+2,+30)	250	0.072	488	0.024	868	0.022	0.842	0.000***
CAR(-20,+20)	250	0.127	489	0.071	870	0.053	0.208	0.000***
CAR(-30,+30)	250	0.156	481	0.066	848	0.054	0.566	0.000***
CAR(0,+30)	250	0.094	488	0.046	869	0.039	0.534	0.000***
$\Delta IndROA_{-1,1}$	226	0.07	450	-0.018	716	-0.022	0.694	0.000***
$\Delta IndROA_{-1,2}$	192	0.099	395	-0.024	605	-0.007	0.196	0.000***
$\Delta IndROA_{-1,3}$	170	0.096	371	-0.011	532	0	0.426	0.001***

Chapter 2

Ownership Structure, Antitakeover Provisions, and the Cost of Bank Debt

Abstract

We investigate whether the effects of antitakeover provisions (ATPs) on debtholder wealth vary across firms' ownership structure. Using a regression discontinuity design approach, we find that the cost of bank loans significantly decreases (increases) for family (nonfamily) firms after the passage of close-call shareholder proposals to remove ATPs. This result for family firms is evident only when they have better governance, when they maintain a debtholder-friendly policy, or when they have higher default risk. Our results highlight the importance of ownership structure and its interaction with firm characteristics when determining the effects of ATPs on the cost of debt.

Keywords: Agency conflict, Antitakeover provision, Cost of bank loan, Ownership structure, Regression discontinuity

***JEL* Classification**: G21, G32, G34

Introduction

While previous studies extensivley investigate the impact of antitakeover provisions (ATPs) on shareholder wealth and the cost of equity,[19] they offer limited evidence on the effects of ATPs on debtholder wealth and the cost of debt. A few notable excetions are Klock, Mansi, and Maxwell (2005), Chava, Livdan, and Purnanandam (2009), and Liu and Wu (2017), who show that ATPs reduce creditors' concerns about borrowers' takeover vulnerability, thereby benefitting creditors and in turn lowering the cost of debt.

In this study, we extend the literature on ATPs by considering corporate ownership structure as a key determinant of the impact of ATPs on debtholder wealth. Ownership structure has a significant effect on the agency cost of debt by influencing managerial agency conflicts (e.g., managerial shortermism, risk-taking incentives, and empire building), shareholder-debtholder conflicts (Jensen and Meckling, 1976; Lewellen, Loderer and Rosenfeld, 1985; John and John, 1993), and large shareholder-small shareholder conflicts (Lin et al., 2011). It is also an important determinant of the takeover probability of firms. For example, Cremers, Nair, and Wei (2007) show that the presence of institutional blockholders increases creditors' concern about a firm's takeover risk. To the extent that agency conflicts and takeover vulnerability are important channels through which ATPs affect firm value, we expect the benefits and costs of removing ATPs for creditors to vary across firms with different ownership structures.

[19] Previous studies show mixed evidence on the effects of ATPs on shareholder wealth and the cost of equity. For example, while some studies find that ATPs entrench managers and thus decrease shareholder value (Gompers, Ishii, and Metrick, 2003; Masulis, Wang, and Xie, 2007; Bebchuk, Cohen, and Ferrell, 2009; Cuñat, Gine, and Guadalupe, 2012; Cohen and Wang, 2013), others show that ATPs play a value-enhancing role by mitigating managerial shortermism (Johnson, Karpoff, and Yi, 2015; Cremers, Litov, and Sepe, 2017; Chemmanur and Tian, 2018). Similarly, while Ferreira and Laux (2007) and Chen, Chen, and Wei (2011) find that ATPs hinder the flow of information and thus increase the cost of equity, Cremers and Nair (2005) and Cremers, Nair, and John (2009) document that removing ATPs increases a firm's systematic risk, resulting in a higher cost of equity.

To investigate whether the effects of ATPs on debtholder wealth vary across firms' ownership structure, we focus on family ownership, which has several unique, important characteristics; this allows us to examine the complex interplay among ownership, agency problems, and ATPs from creditors' perspective.[20] Family owners enjoy a larger portion of private benefits of control than other large institutional shareholders, such as banks, hedge funds, and investment funds, whose private benefits tend to be diluted. Moreover, family and nonfamily shareholders face different levels of agency conflicts with other stakeholders, including managers, small shareholders, and debtholders (Villalonga and Amit, 2006),[21] which affects their firms' cost of capital differently.[22] For example, family owners' strong intent for intergenerational transfers of control and a longer-term horizon help reduce family firms' costs of capital by incentivizing family owners to cultivate durable relationships with various stakeholders, including banks (Anderson, Mansi, and Reeb, 2003; Mueller and Philippon, 2011; Kang and Kim, 2018). However, Lin et al. (2011) show that the cost of debt financing is higher for family firms with a larger wedge between the control and cash

[20] Family ownership is the most prevalent form of concentrated ownership worldwide. For example, in the U.S., founders and their heirs are the most common types of large, undiversified shareholders, controlling about one-third of Fortune 500 and S&P 500 industrial firms (Anderson and Reeb, 2003) and more than one-half of all public firms (Villalonga and Amit, 2010). In Asia and Europe, family firms account for almost half of listed firms and more than 60% of all firms, respectively (Claessens, Djankov, and Lang, 2000; Faccio and Lang, 2002).

[21] Prior studies have extensively examined the different levels of agency problems between family and nonfamily firms. For example, while concentrated family ownership mitigates agency problems between managers and shareholders due to active monitoring by controlling owners and their strong leadership (Fama and Jensen, 1983; Villalonga and Amit, 2006), it tends to intensify agency conflicts between controlling shareholders and minority shareholders (Villalonga and Amit, 2006, 2009; Ali, Chen, and Radhakrishnan, 2007).

[22] A few studies examine whether the role of takeover provisions differs among firms with different ownership structures. Cremers, Nair, and Wei (2007) argue that the net impact of shareholder governance on bondholders depends on the nature of the governance mechanisms in place. Using the presence of an institutional blockholder as a proxy for shareholder governance, they find that institutional block ownership combined with low ATPs leads to higher bond yields. They argue that the presence of institutional blockholders increases the likelihood of a firm being a takeover target, especially when it has weak ATPs. Cremers, Litov, and Sepe (2017) find that the removal of staggered boards has a negative effect on the value of firms whose projects require long-term investments. However, they find no evidence for firms with transient and short-term-oriented institutional investors.

flow rights of controlling shareholders because such excess control rights enable large shareholders to engage in tunneling and other moral hazard activities.

A firm's decision to remove ATPs can have two opposing effects on debtholder wealth. On the one hand, since the removal of ATPs increases a firm's takeover vulnerability,[23] it exacerbates the bank's concerns that its borrowers as takeover targets are likely to experience an increase in leverage and default risk (Ghosh and Jain, 2000; Chava, Livdan, and Purnanandam, 2009). On the other hand, the removal of ATPs tends to increase the exposure of large shareholders and managers to external market disciplines (Karpoff and Malatesta, 1989; Bertrand and Mullainathan, 2003; Lel and Miller, 2015), thereby reducing their incentives to expropriate debtholders. While prior studies mainly focus on the potential costs of an increase in takeover risk caused by the removal of ATPs from the creditors' perspectives (e.g., Chava, Livdan, and Purnanandam, 2009), little is known about whether the benefits arising from such increased external market discipline exceed the costs associated with the removal of ATPs.

A priori, it is unclear whether the net effects of removing ATPs on debtholder wealth are different between family firms and nonfamily firms. Compared to nonfamily firms, the conflicts of interest between controlling shareholders and minority shareholders are more severe in family firms in which controlling family owners have strong incentives and power to extract private benefits at the expense of minority shareholders.[24] Thus, we expect the marginal benefit of having fewer takeover defenses that allow external governance forces

[23] Cunat et al. (2015) show that the passage of proposals to remove ATPs increase a firm's takeover probability by 4.5%. Karpoff, Schonlau, and Wehrly (2016) also find that the G-index and E-index (Bebchuk, Cohen, and Ferrell, 2009) are negatively associated with a firm's takeover likelihood.

[24] Prior studies show that founding families expropriate other investors through various channels, such as special dividends, unwarranted perquisites, excessive compensation, and related-party transactions (DeAngelo and DeAngelo, 2000; Faccio, Lang, and Young, 2001; Gilson and Gordon, 2003; Baek, Kang, and Lee, 2006).

to discipline unconstrained controlling shareholders and managers to be greater for family firms than for nonfamily firms. Moreover, compared to nonfamily firms, banks' concern about an increase in firms' takeover vulnerability and managerial risk-taking incentives associated with the removal of ATPs should be lower in family firms in which family owners' strong incentives for intergenerational transfers of control and concentrated ownership effectively lower the probability of takeovers even with few ATPs. Therefore, for family firms that remove ATPs, we expect the benefits of removing ATPs to outweigh the costs arising from increased takeover vulnerability and thus expect creditors to charge lower loan rates for such firms.

However, it is also possible that removing ATPs imposes larger potential costs for debtholders of family firms than for those of nonfamily firms. Weaker takeover defenses potentially weaken firms' stakeholder relationships, and this adverse effect could be more detrimental for family firms than for nonfamily firms. Prior studies show that family owners' long-term investment horizon and commitment help improve stakeholders' perception of their firm's trustworthiness, and thus, family firms are more effective at building durable stakeholder relationships than nonfamily firms (Anderson, Mansi, and Reeb, 2003; Mueller and Philippon, 2011; Kang and Kim, 2018). To the extent that a creditor's current loan pricing for family firms has already taken into account their expected durable stakeholder relationships, any decision by the firms to lower ATPs could be viewed as a signal of weakening future stakeholder relationships, which would then prompt banks to increase interest rates. Supporting these potential adverse effects of weak ATPs on the cost of bank debt in family firms, recent studies show that firms benefit from increased takeover defenses when they rely on long-term relationships with stakeholders such as customers and strategic

partners (Cremers and Ferrell, 2014; Johnson, Karpoff, and Yi, 2015; Cremers, Litove, and Sepe, 2017). For example, Johnson, Karpoff, and Yi (2015) find that the valuation of firms going public is positively associated with their use of ATPs when they have important business relationships with stakeholders. This finding on the role of ATPs as a bonding mechanism suggests that weak ATPs could hurt debtholder wealth, especially that of family firms that greatly value durable stakeholder relationships.

To examine whether the effects of ATPs on debtholder wealth (i.e., costs of bank debt) differ between family and nonfamily firms, we use a regression discontinuity design (RDD) approach, which exploits vote outcomes that are random in a narrow range around the majority threshold and result in a discrete change in the probability of removing ATPs (Cuñat, Gine, and Guadalupe, 2012, 2013, 2015; Flammer, 2015; Liu and Wu, 2017; Chemmanur and Tian, 2018). This approach allows us to address endogeneity problems that firms do not randomly choose the level of their ATPs. For example, controlling shareholders may prefer more ATPs to preserve their strong control rights, which may be already factored into the bank's loan pricing terms, resulting in omitted variable bias concerns. It is also possible that a firm's private information on growth options affects both its ATP choice and interest rates charged by banks, causing a bias in estimating the regressions.[25]

Using the G-index of Gompers, Ishii, and Metrick (2003) as a measure of ATPs, we find that the effect of a firm's passage of proposals to drop ATPs on loan spreads is significantly different between family and nonfamily firms. We find that only family firms

[25] The banking literature shows that bank lenders have access to private information on their borrowers (e.g., James, 1987), and this information production role of banks is more pronounced for loan-renewing firms (Lummer and McConnell, 1989) and informationally opaque firms (Slovin, Jhonson, and Glascock, 1992; Best and Zhang, 1993).

enjoy a lower cost of debt after the passage of the proposal. This suggests that creditors of family firms view shareholders' decision to remove ATPs as a creditor-friendly policy, which reduces their concerns about potential expropriation and entrenchment risk. For nonfamily firms, consistent with prior studies (Klock, Mansi, and Maxwell, 2005; Chava, Livdan, and Purnanandam, 2009; Francis et al., 2010; Liu and Wu, 2017), we find a negative relation between the removal of ATPs and loan spreads.

Next, we conduct a series of subsample tests to examine whether the effects of ATPs on debtholder wealth differ across firms with different internal and external governance mechanisms. Prior studies show that corporate governance mechanisms play an important role in restraining managerial shirking and improving financial reporting quality (Klein, 2002; Anderson, Mansi, and Reeb, 2004; Cornett, Marcus, and Tehranian, 2008) and thus help reduce the agency cost of debt.[26] Previous studies also show that the actual adoption of shareholder proposals approved varies depending on a firm's governance mechanisms (Ertimur, Ferri, and Stubben, 2010; Renneboog and Szilagyi, 2011) because the implementation of such proposals by managers is discretionary and thus not binding. Therefore, the effects of ATPs on debtholder wealth for family firms are expected to differ across firms with different governance structures. However, for nonfamily firms, the role of firms' governance mechanisms in influencing the relation between ATPs and debtholder wealth is unclear: the removal of ATPs in nonfamily firms significantly increases creditor concerns about takeover risk, and such costs imposed on the creditors may be too large to

[26] However, it is also possible that better governance influences managers to engage in more risk-taking activities (Ferreira and Laux, 2007; John, Litov, and Yeung, 2008; Laeven and Levine, 2009; Phan and Hegde, 2013), which benefits shareholders at the expense of debtholders.

be fully offset by potential benefits arising from having effective governance mechanisms in place.

Consistent with our prediction, we find that the removal of ATPs reduces the loan spreads of family firms only when they have good corporate governance. Specifically, the loan-spread-reducing effects of weak takeover defenses for family firms are significant only when firms have effective CEO compensation contracts that incentivize managers to improve firm performance (i.e., a high CEO pay-performance sensitivity and a low level of CEO excess pay). We also find that these effects for family firms are evident only among those with good internal (i.e., a higher proportion of nonfamily independent directors on the board and larger institutional ownership) and external (i.e., intense product market competition) governance systems that make managers more likely to implement the shareholder-led proposals.

As a further test, we classify sample firms according to whether they maintain a debtholder-friendly policy. Shareholders of levered firms have strong incentives to influence management to pay out excessive dividends and to take excess risk, resulting in wealth transfer from debtholders to shareholders (Galai and Masulis, 1976; Jensen and Meckling, 1976). Concerns regarding this moral hazard problem can be reduced if firms maintain a debtholder-friendly policy, such as lower dividend payout, better financial reporting, and transparent information environments. The marginal benefits from pursing debtholder-friendly policies should be greater for family firms in which controlling shareholders have strong incentives to expropriate debtholders. Consistent with this argument, we find that the loan-spread-reducing effects of passed governance proposals are evident only among a subgroup of family firms with a debtholder-friendly policy (i.e., lower

dividend payout, lower accruals, higher analyst following, and lower analyst forecast dispersion).

Finally, we examine whether the main results above are pronounced among family firms with higher default risk. Since default risk increases the uncertainty of a family firm's future survival, owners of family firms with high default risk would have strong incentives to reduce such risk by choosing value-enhancing policies over those that maximize their private benefits. Thus, to the extent that weak takeover defenses increase the influence of external governance forces over controlling shareholders and managers and the effect of such an influence on firm value is stronger when family owners have the greatest incentives to improve firm value, we expect that creditors' potential benefits from the removal of ATPs are greater for family firms with higher default risk than for those with lower default risk. Consistent with this prediction, we find that only family firms with higher default risk (i.e., higher leverage, higher operating income volatility, higher stock return volatility, and lower Altman's Z-score) experience a significant reduction in their loan rates after the passage of proposals.

However, for nonfamily firms, we find some weak and mixed evidence that the effect of weak ATPs on debtholder wealth varies depending on firms' governance mechanisms, debtholder-friendly policies, and default risk. The lack of cross-sectional variation in the subgroup analyses of nonfamily firms suggests that the costs of weak takeover defenses are too large for some firms to offset the potential benefits arising from lower agency conflicts.

Overall, these results indicate that the reduced cost of debt for family firms after the passage of ATP-related proposals is evident only among firms with effective internal governance (i.e., a CEO compensation package closely tied to firm performance, a higher

proportion of nonfamily independent directors on the board, larger institutional ownership) and those subject to external market discipline (i.e., intense product market competition). Thus, family firms' decisions to remove ATPs have a positive effect on debtholder wealth particularly when they have lower managerial agency problems and thus are more likely to implement non-binding shareholder proposals. Loan-spread-reducing effects of weak takeover defenses for family firms are also evident only among subgroups of family firms that implement dividend and financial reporting policies favoring creditors and those that are exposed to high default risk.

To check the robustness of our key results, we follow prior studies (e.g., Chava, Livdan, Purnanandam, 2009; Lin et al., 2011) and estimate change regressions using a sample of all S&P 1500 firms that experience changes in the G-index and are covered in the *ExcecuComp* and *DealScan* databases from 1993 to 2006. The results are consistent with those using the RDD approach. Specifically, we regress the change in the natural logarithm of loan spreads on the changes in the G-index and other borrower characteristics and find that an increase in ATPs reduces loan spreads for nonfamily firms but increases loan spreads for family firms. We also find that our main findings do not change when we use the changes in loan spreads instead of the level of loan spreads as the dependent variable in RDD approaches, when perform placebo tests using artificial thresholds or when we estimate regressions excluding dual-class share firms from the analyses.

Our study contributes to the literature in at least three important ways. First, it contributes to the literature that examines the costs and benefits of adopting ATPs. While earlier studies largely focus on the entrenchment effects of ATPs on equity value (e.g., Gompers, Ishii, and Metrick, 2003; Masulis, Wang, and Xie, 2007; Bebchuk, Cohen, and

Ferrell, 2009; Cuñat, Gine, and Guadalupe, 2012; Cohen and Wang, 2013), recent studies show specific circumstances under which ATPs are beneficial. For example, Johnson, Karpoff, and Yi (2018) and Cremers, Lautebach, and Pajuste (2018) show that firms enjoy greater bonding benefits of ATPs in the early stage of their life cycle. Studies also find that the benefits of ATPs outweigh their costs for firms that strongly rely on durable relationships with stakeholders such as customers, suppliers, and strategic partners (Johnson, Karpoff, and Yi, 2015; Cen, Dasgupta, and Sen, 2016) and for firms in which technological innovation activities are important (Cremers, Litov, and Sepe, 2017; Chemmanur and Tian, 2018). Our study adds to this literature by showing that the effects of ATPs on the cost of debt also vary depending on a firm's ownership structure.

Second, our paper contributes to the literature that examines the effects of ATPs from the perspective of creditors. Previous studies that investigate how ATPs affect costs of debt focus on their roles in reducing takeover vulnerability and shareholder-creditor conflicts. For example, Klock, Mansi, and Maxwell (2005), Chava, Livdan, and Purnanandam (2009), and Liu and Wu (2017) show that firms with more ATPs enjoy lower costs of debt. Francis et al. (2010) provide similar evidence using state antitakeover laws as a measure of firms' takeover defenses. We extend these studies by showing that family ownership mitigates creditors' concerns about increases in risk-taking incentives and takeover vulnerability that result from the romoval ATPs.[27] We show that for family firms, the benefits of removing ATPs (e.g., reduced managerial entrenchment and shareholder-manager conflicts) outweigh

[27] Cremers, Nair, and Wei (2007) find that shareholder control measured by institutional blockholding increases (decreases) corporate bond yields if the firm has weaker (stronger) takeover defenses. While their study emphasizes the role of increased takeover vulnerability induced by institutional blockholdings, we focus on family control and various governance mechanisms in examining the effect of takeover defences on the cost of debt. We also use the RDD approach to establish the causal effects of ATPs on the cost of debt.

their costs (e.g., increased risk-taking and takeover vulnerability) due to their strong control incentives and concentrated ownership structure.

Third, our paper complements the literature on the effects of corporate governance on creditors. Previous studies show that good corporate governance reduces managers' incentives to manage earnings and improves financial reporting quality, which helps reduce the cost of debt (Klein, 2002; Anderson, Mansi, and Reeb, 2004; Cornett, Marcus, and Tehranian, 2008; Lin et al., 2011; Hazarika, Karpoff, and Nahata, 2012). We extend this literature by showing that family firms with fewer ATPs enjoy lower costs of bank loans and that these benefits are evident only when they have good internal/external governance.

The paper is organized as follows. In Section I, we discuss our data and compare the characteristics of family and nonfamily firms. Section II discusses the RDD approach as our identification strategy. In Section III, we examine how passing governance proposals that lower ATPs affect the cost of bank loans differently for family and nonfamily firms. Section IV reports subsample results based on various measures of agency conflicts, a debtholder-friendly policy, and default risk. Section V reports results from change regressions using a large sample of firms, and Section VI presents the results from additional robustness tests. Section VII summarizes and concludes the study.

I. Sample and Summary Statistics

A. Sample

To construct the sample used in the RDD analysis, we start with S&P 1500 firms' shareholder-sponsored proposals to remove an ATP included in the G-index constructed by

Gompers, Ishii, and Metrick (2003) from 2003 to 2011.[28] We obtain information on shareholder voting outcomes from the ISS Voting Analytics database.[29] We exclude firms operating in financial (SIC codes between 6000 and 6999) and utility (SIC codes between 4000 and 4999) industries. We also require that proposals have a 50% majority threshold and that the description of their types and vote outcomes are available. These screening procedures yield a sample of 865 proposals. We then merge firms with shareholder-sponsored proposals with firms covered in Loan Pricing Corporation's (LPC) DealScan database, from which we obtain various loan-level data. We require sample firms to have at least one loan contract issued during both one year prior to and three years after a shareholder meeting date.[30] Our final sample consists of 1,175 firm-loan observations (419 loans issued during one year prior to 259 shareholder meetings at which proposals to remove ATPs are voted on and 756 loans issued during three years after such meetings) for 149 distinct firms. We obtain information on stock returns and financial data from CRSP and Compustat, respectively, and on CEO characteristcis from ExecuComp.

Following previous studies on family firms (e.g., Anderson and Reeb, 2003; Villalonga and Amit, 2006; Li and Srinivasan, 2011), we identify family firms using two criteria: 1) equity ownership by a founding family and 2) the presence of family members on the board of directors or on management teams. Specifically, we define family firms as those in which

[28] Following prior studies (Cuñat, Gine, and Guadalupe, 2012), we focus only on shareholder-sponsored proposals in our analyses. Compared with management-sponsored proposals, shareholder-sponsored proposals are less likely to be removed strategically by a firm's management, and therefore, the vote outcome is not likely to be manipulated around the discontinuity, thus satisfying the requirements for an RDD.

[29] The Voting Analytics database complies vote results for shareholder-sponsored proposals at shareholder meetings for Russell 3000 firms starting from 2003. We focus on S&P 1500 firms, as our study requires information on the family firm status, which we identify for firms included in the S&P 1500 index (e.g., Chen, Dasgupta, and Yu, 2014).

[30] We impose this restriction since using an RDD approach requires testing its assumption that the characteristics of firms that marginally pass the proposals and those that marginally reject the proposals are not systematically different prior to vote events. We discuss the results for these tests in Section II.

founding family members, either individually or as a group, have equity ownership exceeding 5% or in which at least one founding family member sits on the board or is in top management. We identify family firms by searching the following sources: the section in proxy statements that describes director biographies, the list of family firms in the November 10, 2003, issue of Business Week magazine, Board Analyst, BoardEx, ExecuComp, and other internet sources, including companies' websites. Family ownership is measured as the ratio of the number of shares of all classes held by family members to the total number of shares outstanding.

B. Summary Statistics

Panel A of Table I presents the frequency distribution of our sample shareholder meetings at which shareholder proposals to remove ATPs are voted on by family control and year. Of 259 shareholder meetings, 60 (23.2%) and 199 (76.8%) are for family and nonfamily firms, respectively. The number of shareholder meetings held in a given year generally decreases over time for both family and nonfamily firms.[31] Panel B of Table I presents the frequency distribution of shareholder meetings by family control and industry (Fama-French 12 industry classifications). The number of shareholder meetings to remove ATPs for family firms is highest in the wholesale, retail, and some services industries, followed by others and consumer durables industries, while the corresponding number for nonfamily firms is highest in the manaufacturing industries, followed by the wholesale, reatil, and some services and others industries.

[31] This decreasing trend in the number of proposals to remove ATPs is also consistent with Cuñat, Gine, and Guadalupe (2016).

Panel A of Table II presents the frequency distribution of our sample shareholder-sponsored proposals and their approval rates by family control and shareholder meeting year. We find that the proposal approval rate for family firms is 46.3%, which is 19.5 percentage points lower than that for nonfamily firms, although the average percentage of votes in favor is similar between family firms (54%) and nonfamily firms (56%). In untabulated tests, we find that 29.6% of vote outcomes have a vote share in favor falling into a -10% to +10% bandwidth around the 50% majority threshold, which captures information at discontinuity and indicatesg that our causal estimates can be directly generalizable to a sizeable number of firms.

In Panel B of Table II, we report the frequency distribution of shareholder-sponsored proposals by family control and proposal types. Consistent with the findings in Cuñat, Gine, and Guadalupe (2012), for both family and nonfamily firms, shareholder-sponsored proposals to repeal classified boards are the most common types of G-index-related proposals, followed by those to repeal poison pills. Specifically, we find that the proposals to eliminate classifed boards in family firms account for 40.3% of 67 proposals compared to 29.1% of 237 proposals in nonfamily firms, while the proportion of proposals to eliminate poison pills is similar between family and nonfamily firms. Family firms' average approval rate of 46.3% for proposlas to remove ATPs is much lower than the corresponding rate of 65.8% for nonfamily firms.

Table III provides descriptive statistics for the sample of 149 firms that comprises 105 (70.5%) nonfamily firms and 44 (29.5%) family firms.[32] Several observations are

[32] The proportion of family firms in our sample is lower than that of prior studies that use family firms on the Fortune 500 list (Villalonga and Amit,2006) and S&P 500 list (Anderson, Mansi, and Reeb, 2003). The diffierence is largley due to our requirement for sample firms to be included in the S&P 1500 index list and to have available information on shareholder voting on the removal of ATPs in Voting Analytics.

noteworthy. First, compared to nonfamily firms, family firms are smaller, invest more (measured by the ratio of capital expenditures to total assets), and have lower leverage. Second, family and nonfamily firms are not significantly different in terms of performance (net profit margin), growth opportunity (Tobin's *q*), and dividend payout. Third, for internal and external corporate governance characteristics, CEO compensation is more closely linked to firm performance (i.e., higher CEO wealth-performance sensitivity and higher CEO delta) in family firms than in nonfamily firms. However, family firms have less independent boards (i.e., a lower proportion of nonfamily independent directors on the board) than nonfamily firms. Institutional ownership and the product market competition measured by the industry Herfindahl index are not significantly different between family and nonfamily firms. Finally, we find no significant difference in loan-specific characteristics between family and nonfamily firms except that loans issued to family firms have longer maturity than those issued to nonfamily firms. The loan spread is measured using the *DealScan* variable all-in-spread-drawn (AISD), the rate a borrower pays in basis points over LIBOR or the LIBOR equivalent on the drawn loan amounts. The appendix provides detailed descriptions of other variables used in Table III.

II. Identification Strategy

A. Methodology

To estimate the causal impact of governance proposals approved to remove ATPs on the cost of bank loans, we use an RDD approach that exploits discontinuous effects of continuous shareholder voting results on loan spreads. By investigating the difference between the effects of proposals that pass and fail by a small margin, this approach allows

us to achieve local random assignments of voting outcomes around the majority threshold and thus help establish causal implications. Following Lee and Lemieux (2010), to use all our sample proposals efficiently, we approximate the continuous relationship between loan spreads and voting shares in our RDD analysis by controlling for polynomials of voting shares on both sides of the majority threshold.

To apply the RDD approach to our analysis, we address two critical issues discussed in Cuñat, Gine, and Guadalupe (2012). First, to deal with the issue that our loan spread data have dynamic features and proposal approvals can thus influence loans for multiple periods, we combine sample observations for the three-year period after the shareholder meeting and estimate the effect of proposals approved at time *t* on the costs of loans issued at time $t + \tau$. Second, to deal with the issue regarding multiple proposals that remove different types of ATPs at the same shareholder meeting, we aggregate all proposals voted on at the same meeting and estimate the average impact of a proposal passage on loan spreads. This approach assumes that the treatment effects of proposals to remove ATPs are the same for these multiple proposals.[33] Our RDD specification is as follows:

$$y_{f,t+\tau} = \alpha + \beta \sum_{k=1}^{N} Pass_{f,t}^{K} + P_l\left(\sum_{k=1}^{N} v_{f,t}^{K}, \gamma_l^{\tau}\right) + P_r\left(\sum_{k=1}^{N} v_{f,t}^{K}, \gamma_r^{\tau}\right) + \theta_{\tau} + \rho_t + u_{f,t,\tau}, \quad (1)$$

where $y_{f,t+\tau}$ is the natural logarithm of a loan spread for firm *f* at time $t + \tau$, $Pass_{f,t}^{K}$ is an indicator that takes the value of one if the proposal is approved and zero otherwise, $v_{f,t}$ is the difference between a fraction of votes in favor and the majority threshold, $P_l\left(v_{f,t}, \gamma_l^{\tau}\right)$ and $P_r\left(v_{f,t}, \gamma_r^{\tau}\right)$, respectively, represent polynomials of voting shares on the left-hand and

[33] For a more detailed discussion of the RDD specification, see Cuñat, Gine, and Guadalupe (2012) and Flammer (2015).

right-hand sides of the threshold, θ_τ denotes distance-to-meeting fixed effects for the number of years after the shareholder meeting, and ρ_t represents year fixed effects.[34] The coefficient β estimates the average causal effect of passing an ATP proposal on loan spreads. To examine whether the effect of removing ATPs on loan spreads is different depending on the ownership structure (i.e., family ownership), we estimate the regressions separately for family and nonfamily firms and then compare β estimated using a subsample of family firms to that estimated using a subsample of nonfamily firms. We cluster standard errors at the firm level to account for within-firm dependence across observations.

B. Identification Assumption

We conduct two sets of standard diagnostic tests to verify whether the RDD's identification assumption that randomization holds locally around the discontinuity (i.e., firms randomly fall into either side of the majority threshold) is satisfied in our setting. First, we test whether the distribution of votes in favor in our sample is continuous around the threshold.[35] The left figure in Figure I shows a histogram of the distribution of vote shares for shareholder-sponsored proposals to remove ATP across 40 equally spaced bins. The *x*-axis is the percentage of votes in favor of the proposals. It shows no sign of any discontinuity around the majority threshold, indicating that vote outcomes are unlikely to

[34] Given that loans are not always issued to a firm every year in the three-year period after the shareholder meeting, we neither allow the coefficients on $Pass_{f,t}$ or the polynomials to vary across τ nor include shareholder meeting fixed effects in the regressions. This approach is similar to that of Cuñat, Gine, and Guadalupe (2016), who examine the causal effects of ATPs on a firm's likelihood of being a target (takeover premium) in the five years after the passage of ATPs using a static RDD in which a unit of observation is the incidence of being acquired, a one-time event that does not take place over multiple periods.

[35] For this test, we use a sample of 865 proposals (739 shareholder meetings) by 305 distinct firms, which consist of the 149 firms used in the above analyses and 156 firms without loan contracts issued around the shareholder meeting date. We include these 156 firms because the test of whether the setting of shareholder proposals satisfies the basic assumptions of RDD requires a comprehensive voting sample.

be precisely manipulated. The right figure of Figure I plots the McCrary (2008) test of the distribution of the vote shares on the proposals. The *x*-axis is the percentage of votes in favor of the ATP proposals. The small circles depict the density estimates, and the solid line represents the fitted density function of vote shares with a 95% confidence interval around the fitted line. We find no evidence of discontinuity around the cutoff point. The discontinuity estimate of the density (Wald *t*-statistics = -1.48) fails to reject the null hypothesis that the density function is continuous at the threshold.

Second, following prior studies that use RDD analysis (Cuñat, Gine, and Guadalupe, 2012; Flammer, 2015), we test whether firm characteristics prior to the shareholder meetings are systematically different between firms that marginally pass the proposals (*passing firms*) and those that marginally fail the proposals (*rejecting firms*). Panel A (B) of Table IV reports the results from *Eq*. (1) that use as the dependent variable loan spreads (firm characteristics) prior to the shareholder meeting. Column (1) in Panel A and columns (1) and (3) in Panel B present estimates without controlling for polynomials (i.e., estimating the average pre-differences in loan spreads and firm characteristics between *passing firms* and *rejecting firms*, respectively), and column (2) in Panel A and columns (2) and (4) in Panel B report estimates controlling for polynomials of order 3 (i.e., estimating the pre-differences at the discontinuity).

In column (1) of Panel A, we find no significant differences in loan spreads between *passing firms* and *rejecting firms* before the shareholder meeting when polynomials are not controlled for. However, when we control for polynomials in column (2), loan spreads prior to the shareholder meeting are significantly higher for *passing firms* than for *rejecting firms* around the majority threshold. This raises some concern that the difference in loan spreads

around the majority threshold exists before the shareholder meetings, and thus, the post-meeting difference in loan spreads may not be caused by voting outcomes. In untabulated tests, we reestimate the regression in column (2) of Panel A separately for family and nonfamily firms and find that the difference in loan spreads prior to a shareholder meeting is positive and significant in the subsample of nonfamily firms, while it is insignificant in the subsample of family firms. Therefore, the results for loan spreads of nonfamily firms after shareholder meetings must be interpreted with some caution.[36]

Columns (1) and (2) (columns (3) and (4)) of Panel B in Table IV report the results of the diagnostic tests that examine the differences in the levels of firm characteristics one year prior to the shareholder meeting, $year_{t-1}$ (changes in firm characteristics from $year_{t-2}$ to $year_{t-1}$), between *passing firms* and *rejecting firms*. When polynomials are controlled for, we find no significant pre-difference in either the levels of or changes in firm characteristics between the two groups of firms, except for the level of *Tobin's q*.[37] Overall, the results confirm locally random assignments of our sample voting outcomes around the majority threshold, which helps justify the use of the RDD approach in our analysis.

III. Family Control, Governance Proposals, and Costs of Bank Loans

In this section, we examine whether the effects of approved governance proposals on costs of bank financing are different between family and nonfamily firms. Figure II shows

[36] To further check the issue regarding the existence of pre-differences in loan spreads between *passing firms* and *rejecting firms*, we investigate the effects of passing shareholder proposals on changes in loan spreads between before and after shareholder meetings and find that loan spreads significantly decrease for family firms and insignificantly increase for nonfamily firms. This confirms that the pre-differences in loan spreads do not influence our main findings for family firms. We discuss the analyses using loan spread changes in detail in Section VI.

[37] Flammer (2015) suggests that two groups of firms drawn from the same distribution can show significant differences in a few variables if various firm characteristics are compared.

the changes in loan spreads between before and after shareholder meetings for family firms (left figure) and nonfamily firms (right figure).[38] The x-axis represents the distance between a favoring vote share and the majority threshold (i.e., percentage of votes in favor minus the majority threshold). Each dot represents the average change in the logarithm of loan spreads within 1% bins of voting shares, and the solid line indicates the predicted value from a regression with second-order polynomials.

We find that although the discontinuity close to the 50% threshold is visible in both RDD plots for family and nonfamily firms, it runs in opposite directions: loan spreads drop in the subsample of family firms but jump in the subsample of nonfamily firms around the majority threshold. This evidence suggests that the effects of ATP removal on the cost of debt financing is different between family firms and nonfamily firms. These opposite patterns of the changes in loan costs for family and nonfamily firms suggest that a firm's ownership structure and controlling shareholders' incentives play an important role in determining the responses of bank creditors to an increased probability of stronger takeover defenses.

Table V presents the results from estimating *Eq.* (1). Columns (1)-(3) present the results for the pooled sample of family and nonfamily firms. We find that the coefficient on the number of ATP-removal proposals that are passed at shareholder meetings (*Pass*) is positive and significant at the 10% level when the fourth-order polynomials are controlled for (column (3)). This finding suggests that loan spreads are higher for firms that marginally

[38] Although we use the level of loan spreads throughout our regression analyses, Figure 2 presents RDD plots for changes in loan spreads for easier reference. Using the levels of loan spreads in RDD plots would require presenting the plots for both pre- and post-meeting periods and make it difficult to compare loan spreads between family and nonfamily firms. Thus, to better illustrate whether the effect of proposal approvals on loan spreads is different between family and nonfamily firms, we present the plots using changes in loan spreads.

pass proposals to remove ATPs than for those that marginally fail to pass such proposals in the three-year period after the meeting, which is consistent with prior findings that stronger takeover defenses lead to lower costs of debt (Klock, Mansi, and Maxwell, 2005; Chava, Livdan, and Purnanandam, 2009; Francis et al., 2010).

We next estimate the regressions separately for family firms (columns (4)-(6)) and nonfamily firms (columns (7)-(9)). For family firms, we find that the coefficient on *Pass* is negative and significant when the second- and third-order polynomials are controlled for (columns (4) and (5)) and insignificant when the fourth-order polynomials are controlled for (column (6)). In contrast, in columns (7)-(9) for nonfamily firms, the coefficient on *Pass* is positive and significant (insignificant) when the third- and fourth-order (second-order) polynomials are controlled for. These findings, together with those in Figure II, suggest that after shareholders marginally pass proposals to remove ATPs, the costs of bank loans decrease for family firms but not for nonfamily firms. The difference in the coefficient estimates on *Pass* between family and nonfamily firms is statistically significant (*p-value* < 0.00) regardless of the orders of polynomials controlled for in the regressions. The impact of the passage of the proposal on the costs of bank loans is also economically significant. The coefficient of -0.847 on *Pass* in column (5) that controls for the third-order polynomials suggests that the loan spreads of family (nonfamily) firms marginally passing an ATP proposal are 55.9% (71.6%) lower (higher) than those of family (nonfamily) firms marginally rejecting an ATP proposal.

Overall, these results are consistent with our hypothesis that creditors take into account ownership structure in assessing the benefits and costs of reducing ATPs and incorporate net benefits in their loan pricing.

IV. Agency Conflicts and Costs of Bank Loans

In this section, we examine how various agency conflicts affect the main results in the previous section indicating that the cost of bank loans significantly decreases (increases) for family (nonfamily) firms after the passage of close-call shareholder proposals to remove ATPs.

A. Internal and External Corporate Governance

First, we examine whether the sharp difference in the effects of passing ATP-related proposals on loan costs between family and nonfamily firms is more pronounced when family firms have better internal governance. Prior literature suggests that debtholders benefit from good internal governance, which effectively curbs managerial shirking (Klein 2002; Anderson, Mansi, and Reeb, 2004) and incentivizes managers to improve financial reporting (Cornett, Marcus, and Tehranian, 2008). Moreover, good internal governance increases the likelihood that firms implement proposals passed at shareholder meetings (Ertimur, Ferri, and Stubben, 2010; Renneboog and Szilagyi, 2011).[39] To the extent that an increase in takeover risk due to the removal of ATPs is a real threat for poorly governed firms with dispersed controlling ownership and good internal governance facilitates the reduced entrenchment of managers and controlling shareholders to more effectively

[39] Prior studies find that despite the nonbinding nature of shareholder proposals under the SEC's Rule 14a-8, firms tend to adopt proposals that win a majority of shareholder votes to avoid reputational penalties (Thomas and Cotter, 2007; Ertimur, Ferri, and Stubben, 2010). For example, Ertimur, Ferri, and Stubben (2010) show that the implementation rate of governance-related shareholder proposals for their sample firms is about 7.6% but increases to 31.1% for proposals that receive a majority vote. Cuñat, Gine, and Guadalupe (2012) also find that the corresponding rate of ATP removal proposals is 31.3%. Studies further show that proposals are more likely to be adopted by firms with an independent board (Ertimur, Ferri, and Muslu, 2010) and are less likely to be adopted by entrenched managers (Renneboog and Szilagyi, 2011).

translate into an increase in firm value, the net benefits that creditors can obtain from removing ATPs would be particularly large for well-governed family firms. To test this prediction, we divide our sample family (nonfamily) firms according to their sample median internal/external governance measure and examine whether the results vary across firms that differ in their quality of internal governance.

We first consider CEO compensation to measure the quality of a firm's internal governance. When compensation is designed to better incentivize CEOs to improve firm value (i.e., higher CEO pay-performance sensitivity), passed governance proposals can more effectively reduce agency conflicts in family firms and thus create more value for their creditors, which should be factored into ex ante loan pricing. We use two measures of CEO pay-performance sensitivity: CEO wealth-performance sensitivity (Edmans, Gabaix, and Landier, 2009) and CEO delta (Core and Guay, 2002). In addition, we use excess CEO compensation as an alternative measure of the effectiveness of a firm's internal governance because CEOs tend to earn excess compensation when the boards of their firms are less effective in monitoring (Hallock, 1997; Core, Holthausen, and Larcker, 1999). Following Faleye, Hoitash, and Hoitash (2011), we measure excess CEO compensation as the residual estimated by regressing the logarithm of CEO total compensation on firm size (natural logarithm of the market value of equity), ROA, book-to-market, the standard deviation of ROA, the standard deviation of stock returns, and year and industry indicators.

The results are reported in Panel A of Table VI. We find that the coefficients on *Pass* are negative and significant at the 5% level or better for family firms that adopt effective CEO compensation contracts (i.e., higher CEO wealth-performance sensitivity, higher CEO pay-performance sensitivity (CEO delta), and lower CEO excess pay). However, for family

firms with ineffective CEO compensation contracts, the coefficients on *Pass* are insignificant for all three measures. These results suggest that banks favor fewer ATPs for family firms only when their CEOs have strong incentives to increase firm value or when boards effectively monitor CEOs by not paying them excess compensation. In contrast, we find some weak evidence that ineffective compensation contracts (i.e., lower CEO wealth-performance sensitivity and higher excess CEO compensation) are associated with an increase in loan costs for nonfamily firms that reduce ATPs.

We next consider the proportion of nonfamily independent directors on the board as a measure of family firms' internal governance. Previous studies on the monitoring role of independent directors (e.g., Brickley and James, 1987; Weisbach, 1988; Byrd and Hickman, 1992, Hermalin and Weisbach, 1998) suggest that the net benefits from removing ATPs should be greater for family firms in which the board is dominated by independent directors. Supporting this view, in Panel B of Table VI, we find that the coefficient on *Pass* is negative and significant at the 5% level for family firms with a higher proportion of nonfamily independent directors, while that on *Pass* is insignificant for family firms with a lower proportion of such directors. For nonfamily firms, we find significantly higher loan spreads when the board's oversight role is weaker.

The third internal governance measure we use is intuitional ownership. Shleifer and Vishny (1986) argue that the optimal level of monitoring by outside shareholders increases with the size of their equity ownership. As a consequence, we expect that institutions with larger equity ownership perform more effective monitoring than those with smaller equity ownership. Consistent with this argument, in Panel B of Table VI, we find that family firms in which institutional investors have large equity ownership experience a significant

decrease in loan costs after passing shareholder proposals to remove ATPs, while those with lower institutional ownership experience an insignificant increase in loan costs. For nonfamily firms, the results are not affected by the level of intuitional ownership.

Finally, we focus on product market competition as a measure of external governance systems that discipline managers and family shareholders. Managers and family shareholders insulated from market discipline due to a lack of competition have strong incentives to maximize their private benefits at the expense of minority shareholders. Thus, we expect that the loan-spread-reducing effects of decreased ATPs are more pronounced in family firms operating in a competitive product market. We consider that a firm operates in a high- (low-) competition industry if its Herfindahl index, measured as its squared revenue share in its Fama-French 48 industry, is below (above) the sample median. The results reported in Panel C of Table VI show that the coefficient on *Pass* is negative and significant at the 1% level for family firms with higher product market competition but insignificant for family firms with lower product market competition. This suggests that loan spreads significantly decrease only for family firms whose CEOs are effectively disciplined by product market competition. The level of product market competition has no effect on loan spreads for nonfamily firms.

Overall, the findings in this subsection suggest that creditors of family firms benefit from the removal of ATPs only when increased market discipline resulting from such removal are complemented with good internal and external firm governance.

B. Debtholder-Friendly Policy and Default Risk

To further investigate the channels through which approved governance proposals affect loan costs, we examine whether firms' debtholder-friendly policy and default risk

affect their loan costs after the passage of shareholder proposals to remove ATPs. To measure a firm's debtholder-friendly policy, we first use its dividend payout ratio. Excessive payouts to shareholders may increase creditors' concerns about potential wealth transfer from debtholders to shareholders. Supporting this view, for example, Dhillon and Johnson (1994) and Maxwell and Stephens (2003) find a decrease in bond returns when a firm announces an increase in dividends or repurchase stocks. Other studies show that dividend restriction covenants are an important contractual device that mitigates conflicts between creditors and shareholders (e.g., Smith and Warner, 1979; Kalay, 1982). Thus, low payout policies of family firms in which family owners have large cash flow rights can be viewed as a strong commitment to a debtholder-friendly policy.

Our second measure is a firm's financial reporting policy. Previous studies show that the cost of debt financing increases for firms that manage their earnings through high-discretionary accruals and low accrual quality (Graham, Li, and Qiu, 2008; Prevost, Skousen, and Rao, 2008)), suggesting that a high quality of firms' financial reporting benefits debtholders. We measure the quality of firms' financial reporting using total accruals and the absolute value of discretionary current accruals, which are more likely to be influenced by managers compared to nondiscretionary accruals that are controlled by firm and industry conditions (Teoh, Welch, and Wang, 1998).

Third, we consider a firm's information environments since better information environments reduce information asymmetry between firms and outside investors. In particular, Cheng and Subramanyam (2008) and Mansi, Maxwell, and Miller (2011) find that information production by financial analysts decreases bond spreads and credit ratings, suggesting that better information environments help monitor firms by imposing stronger

market discipline. We measure firms' information environments using the number of financial analysts following and analyst forecast dispersion.

While the removal of ATPs incentivizes firms – particularly family firms whose owners have large controlling ownership – to pay out excessive dividends and to take high risk and thus hurt creditor wealth, debtholder-friendly policies such as limited payouts to shareholders, high-quality financial reporting, and transparent information environments are likely to mitigate such a concern. To test this prediction, we divide family and nonfamily firms according to the sample medians of payout ratios, total accruals, discretionary current accruals, the number of analysts following, and analyst forecast dispersion, respectively, and estimate the regressions separately for these subsamples.

The results are reported in Panel A of Table VII. We find that the coefficient on *Pass* is negative and significant only for the subsample of family firms with a lower payout ratio and insignificant for all other three subsamples. We also find that the coefficient on *Pass* is negative and significant at the 1% level for family firms with lower discretionary current accruals but insignificant for family firms with higher discretionary current accruals. The magnitude of the coefficient is significantly larger for the former firms than for the latter firms, and their difference is significant at 1% level (p-value = 0.00). . Using total accruals as an alternative measure of the quality of a firm's financial reporting, we find similar results. We further find that the coefficient on *Pass* is negative and significant only for family firms with more analysts following. Although the coefficient on *Pass* is negative and significant for both family firms with higher and lower analyst forecast dispersion, the magnitude of the coefficient for the latter firms is more than four times larger than that for the former firms, and their difference is significant at the 5% level. Overall, these results

suggest that the benefits of removing ATPs are largely restricted to family firms with more debtholder-friendly policies (i.e., lower dividend payment and better financial reporting policies). For nonfamily firms, we find some evidence that lenders adjust their loan prices when firms that manage their earnings more attempt to remove ATPs.

Next, we examine whether firms' default risk affects their loan costs after passing shareholder proposals to remove ATPs. To the extent that family owners who suffer from a high default risk of their firms have strong incentives to reduce their firms' survival risk by making value-enhancing decisions, the loan-cost-reducing effects of ATP removals are expected to be concentrated in family firms with higher default risk. To measure a firm's default risk, we use the leverage ratio, operating income volatility, stock return volatility, and Altman's Z-score. Consistent with our prediction, Panel B of Table VII shows that after ATP proposals are passed, loan spreads significantly decrease for family firms with higher default risk (i.e., higher leverage, higher operating income volatility, higher stock return volatility, and lower Altman's Z-score). For nonfamily firms, the coefficient on *Pass* is significant and positive when they have lower leverage and higher Altman's Z-scores and insignificant for other subsamples. Overall, these results lend support to the view that the high default risk of family firms that remove ATPs, together with lower manager-shareholder conflicts resulting from such removal, provides family owners with strong incentives to improve firm value, thus benefitting debtholders.

V. Additional Tests

In this section, we conduct several additional tests to check the robustness of our main results.

A. Change Regressions

Our RDD approach addresses potential omitted variable bias concerns and allows us to identify the causal effects of passed proposals to remove ATPs on costs of bank loans; nonetheless, as a robustness test for the possibility that omitted unobservable time-invariant firm characteristics affect a firm's decision to pass such proposals as well as its loan costs, we perform change regressions (Chava, Livdan, and Purnanandam, 2009; Lin et al., 2011). This approach can also complement our prior findings in that it examines the effects of actual changes in ATPs on loan spreads, while the RDD approach exploits the increased probability of ATP removals induced by the passage of shareholder proposals. Moreover, it allows us to use a more comprehensive sample of firms covered in the DealScan and ExecuComp databases that experience changes in ATPs instead of a subsample of firms with voting outcomes available.

Specifically, to construct a sample, we start with S&P 1500 firms covered in the ExecuComp and DealScan databases from 1993 to 2006. After excluding firms operating in utility (SIC between 4900 and 4999) and financial (SIC between 6000 and 6999) industries and those with missing stock return (financial) information in CRSP (Compustat), we follow Chava, Livdan, and Purnanandam (2009) and keep only firm-years with G-index scores changing between two consecutive years from year *t-1* to *t*. We use only the first loan observation when firms have multiple loans in a given year. We identify 222 firm-year observations that experience changes in the G-index and have information available on the changes in loan spreads. Of these 222 observations, 78 (144) are family (nonfamily) firm-year observations.

Table VIII reports the results of change regressions in which the change in the natural logarithm of loan spreads from year *t-1* to year *t* is regressed on the change in G-index scores and the changes in other firm-level control variables (natural logarithm of the market value of equity, leverage, Tobin's *q*, and net profit margins) during the same period. In column (1), which uses the full sample of family and nonfamily firms, we find that the coefficient on the change in the G-index is insignificant.

We next reestimate the regression in column (1) separately for family and nonfamily firms. We find that the coefficient on the change in the G-index is positive and significant at the 5% level for family firms (column (2)). In contrast, the corresponding coefficient for nonfamily firms is negative and significant at the 10% level (column (3)). The difference in the coefficient estimates on the change in the G-index between family and nonfamily firms is highly significant (*p*-value= 0.00). These results suggest that the actual increase in ATPs leads to decreased (increased) loan costs for family (nonfamily) firms, consistent with our main findings from the earlier RDD analysis.

B. Changes in Loan Spreads

We reestimate the regressions in Table V using the change in loan spreads around the shareholder meeting as the dependent variable. The change in loan spreads for each firm is estimated by subtracting the loan spread in the year before the shareholder meeting from the loan spread for loans issued in the three years following the shareholder meeting. If firms issue multiple loans in the year prior to shareholder meetings, we use the first loan to calculate loan spread changes.

The results reported in Table IX show that using changes in loan spreads does not change the results using the level of loan spreads reported in Table V. In columns (1), (2), and (3), we use the pooled sample of family and nonfamily firms. We find that the coefficients on *Pass* are all insignificant. In columns (4), (5), and (6) (columns (7), (8), and (9)), we use only family (nonfamily) firms in estimating the regressions. We find that the coefficients on *Pass* are negative and significant at the 5% level in column (4) (column (6)), in which the second- (fourth-) order polynomials are controlled for, while the corresponding coefficients are insignificantly positive in columns (7), (8), and (9). The difference in the effects of passing proposals on loan spread changes between family and nonfamily firms is significant at the 1% level, except when the third-order polynomials are controlled for. Therefore, the analyses based on changes in loan spreads confirm our prior findings that the passage of close-call shareholder proposals to remove ATPs significantly decreases loan spreads for family firms but not for nonfamily firms. The results using changes in loan spreads also mitigate concerns that the pre-existing difference in loan spreads between *passing firms* and *rejecting firms* may affect our main results.

C. Placebo Tests

To further show the robustness of our results, we perform placebo tests. Specifically, we artificially choose thresholds of proposal approval other than the 50% majority threshold (i.e., 45%, 55%, and 65%) and examine whether the results using these artificial thresholds generate estimates similar to those reported in Table V. The results using the third-order polynomials are presented in Table X. We find that none of coefficients on *Pass* is statistically significant, suggesting that our prior results using the 50% threshold are

unlikely to be driven by a pure chance and thus accurately capture the discontinuous effects of proposals at the majority threshold on loan spreads.

D. Effects of Passing Proposals to Remove ATPs on Corporate Governance

To examine whether proposals to remove ATPs that pass by a small margin effectively lead to lower takeover defenses, we estimate *Eq.* (1) by replacing the dependent variable, costs of bank debt, with the change in the E-index.[40] We measure the change in E-index by subtracting a firm's pre-meeting E-index from its E-index in the three years after the shareholder meeting at which shareholder proposals to drop ATPs are marginally passed.

The results are reported in Table XI. In columns (1), (2), and (3), we use the full sample and find that *passing firms* experience a larger decline in the E-index in the three years after shareholder meetings than *rejecting firms*. For example, in column (2), in which the third-order polynomials are controlled for, we find that a marginally passed proposal reduces a firm's E-index by 0.748 more than a marginally rejected one. This result is qualitatively similar to the estimation by Cuñat, Gine, and Guadalupe (2012), who show that the passage of close-call shareholder proposals to remove ATPs reduces a firm's G-index by 0.313 within two years.

Next, we divide the sample into family and nonfamily firms and compare whether the effects of passing proposals on changes in E-index are different between these two types of firms. The results show that the magnitudes of the coefficient on *Pass* for family firms (columns (4), (5), and (6)) are greater than those of the corresponding coefficient for nonfamily firms (columns (7), (8), and (9)) after the passage of close-call proposals to

[40] In this analysis, we use the E-index instead of the G-index, which is available up to 2007, given that our sample period ends in 2011.

remove ATPs. The difference in the changes in the E-index between family and nonfamily firms is significant at the 5% level when the fourth-order polynomials are controlled for. This finding provides some evidence that family firms are more likely than nonfamily firms to implement approved ATP proposals, although the implementation of such proposals by managers is discretionary and thus not binding. The results also suggest that family firms' stronger commitment to implementing ATP proposals is already incorporated in lenders' ex ante loan pricing decisions.

E. Dual-Class Shares

Villalonga and Amit (2009) show that many U.S. family firms use dual-class stocks as a control-enhancing mechanism along with disproportionate board representation and voting agreements. Bebchuk, Cohen, and Ferrell (2009) also argue that dual-class shares serve as a powerful mechanism for takeover defenses, so the effect of other antitakeover provisions on takeover vulnerability is trivial. Similarly, Gompers, Ishii, and Metrick (2009) argue that a dual-class stock is "the most extreme example of antitakeover protection." Thus, it is possible that our main findings in the previous sections are driven by some family firms that issue dual-class shares.[41]

In untabulated tests, we examine this possibility by reestimating the regressions in Table V after excluding 7 (4) dual-class family (nonfamily) firms from the sample. The results remain qualitatively the same. For example, controlling for the third-order polynomials, the

[41] Gompers, Ishii, and Metrick (2009) exclude firms with dual-class shares in constructing the G-index because dual-class firms have different voting and ownership structures, and thus, it is difficult to compare their governance structures with those of single-class firms.

coefficient on *Pass* for family firms is negative and significant (*p*-value = 0.03), while that for nonfamily firms is positive and significant (*p*-value = 0.08).

VI. Summary and Conclusion

In this paper, we seek to improve our understanding of the role of ATPs as a device to influence shareholder-debtholder conflicts by investigating whether their role differs depending on a firm's ownership structure. Prior literature generally focuses on the positive role of ATPs in mitigating potential conflicts between shareholders and creditors, and it shows that ATPs benefit creditors, thus lowering a firm's cost of debt. We extend this literature by examining whether creditor benefits (e.g., reduced managerial agency problems) and costs (e.g., increased takeover risk and shareholder-creditor conflicts) that arise from the removal of ATPs vary across firms with different ownership structures.

Using an RDD approach, which exploits vote outcomes that are random in a narrow range around the majority threshold, we find the effects of a firm's passage of proposals to remove ATPs on loan spreads are different between family and nonfamily firms: when shareholders marginally pass governance proposals that reduce ATPs, the cost of bank loans significantly decreases in family firms but not in nonfamily firms. Our subgroup analyses also find that the effects of ATPs on the cost of debt for family firms are affected by firms' governance characteristics, their debtholder-friendly policy, and the levels of their default risk. We further find that for family firms, the loan-spread-reducing effects of the removal of ATPs are particularly evident when they have better internal governance (i.e., higher CEO pay-performance sensitivity, lower excess CEO pay, a higher proportion of nonfamily independent directors on the board, and higher institutional ownership) and when they face

stronger external market discipline (i.e., intense product market competition) and are therefore more likely to implement the proposals. The loan-spread-reducing effects of the removal of ATPs are greater when family firms maintain a debtholder-friendly policy (i.e., lower dividend payout, a higher quality of financial reporting measured by total and discretionary accruals, and better information environments measured by the number of analysts following and analyst forecast dispersion) or when they have higher default risk (higher leverage, a higher operating income volatility, a higher stock return volatility, and a lower Altman's Z-score). For nonfamily firms, we find some weak evidence that the removal of ATPs leads to an increase in loan spreads for firms with poorer internal governance and lower default risk. We also find mixed results regarding debtholder-friendly policies for nonfamily firms. Our results are robust to the use of change regressions, the use of changes in loan spreads as the dependent variable, the use of artificial thresholds, and the exclusion of dual-class shares firms. We also find that compared to nonfamily firms, family firms are more likely to implement non-binding shareholder proposals after the passage of such proposals and thus to make improvements in corporate governance in the post-passage period (i.e., E-index).

Overall, these results suggest that a firm's ownership structure should be taken into account in assessing the net impact of ATPs on its cost of debt and that firm-level governance structure, debtholder-friendly policies, and default risk play an important role assessing such a net impact.

References

Adams, Renée , Heitor Almeida, and Daniel Ferreira, 2005, Powerful CEOs and their impact on corporate performance, *Review of Financial Studies* 18, 1403-1432.

Ahmed, Anwer , Bruce Billings, Richard Morton, and Mary Stanford-Harris, 2002, The role of accounting conservatism in mitigating bondholder-shareholder conflicts over dividend policy and in reducing debt costs, *Accounting Review* 77, 867-890.

Ali, Ashiq, Tai-Yuan Chen, and Suresh Radhakrishnan, 2007, Corporate disclosures by family firms, *Journal of Accounting and Economics* 44, 238-286.

Anderson, Ronald C., Sattar A. Mansi, and David M. Reeb, 2004, Board characteristics, accounting report integrity, and the cost of debt, *Journal of Accounting and Economics* 37, 315-342.

Anderson, Ronald, and David Reeb, 2003, Founding-family ownership and firm performance: Evidence from the S&P 500, *Journal of Finance* 58, 1301-1328.

Anderson, Ronald, Sattar Mansi, and David Reeb, 2003, Founding family ownership and the agency cost of debt, *Journal of Financial Economics* 68, 263-285.

Baek, Jae-Seung, Jun-Koo Kang, and Inmoo Lee, 2006, Business groups and tunneling: Evidence from private securities offerings by Korean chaebols, *Journal of Finance* 61, 2415-2449.

Bebchuk, Lucian, Alma Cohen, and Allen Ferrell, 2009, What matters in corporate governance?, *Review of Financial Studies* 22, 783-827.

Bennedsen, Morten, Francisco Perez-Gonzalez, and Daniel Wolfenzo, 2010, The governance of family firms

Berger, Philip , Eli Ofek, and David Yermack, 1997, Managerial entrenchment and capital structure decisions, *Journal of Finance* 52, 1411-1438.

Bertrand, Marianne, and Antoinette Schoar, 2006, The role of family in family firms, *Journal of Economic Perspectives* 20, 73-96.

Bertrand, Marianne, and Sendhil Mullainathan, 2003, Enjoying the quiet life? Corporate governance and managerial preferences, *Journal of Political Economy* 111, 1043-1075.

Best, Ronald, and Hong Zhang, 1993, Alternative information sources and the information content of bank loans, *Journal of Finance* 48, 1507-1522.

Bharath, Sreedhar , Sandeep Dahiya, Anthony Saunders, and Anand Srinivasan, 2011, Lending relationships and loan contract terms, *Review of Financial Studies* 24, 1141-1203.

Billett, Matthew , Tao-Hsien Dolly King, and David Mauer, 2007, Growth opportunities and the choice of leverage, debt maturity, and covenants, *Journal of Finance* 62, 697-730.

Booth, James , and Daniel Deli, 1999, On executives of financial institutions as outside directors, *Journal of Corporate Finance* 5, 227-250.

Burak Güner, , Ulrike Malmendier, and Geoffrey Tate, 2008, Financial expertise of directors, *Journal of Financial Economics* 88, 323-354.

Chava, Sudheer, Dmitry Livdan, and Amiyatosh Purnanandam, 2009, Do shareholder rights affect the cost of bank loans?, *Review of Financial Studies* 22, 2973-3004.

Chava, Sudheer, Praveen Kumar, and Arthur Warga, 2010, Managerial agency and bond covenants, *Review of Financial Studies* 23, 1120-1148.

Chemmanur, Thomas J., and Xuan Tian, 2018, Do antitakeover provisions spur corporate innovation? A regression discontinuity analysis, *Journal of Financial and Quantitative Analysis* 1-32.

Chen, Tai-Yuan, Sudipto Dasgupta, and Yangxin Yu, 2014, Transparency and financing choices of family firms, *Journal of Financial & Quantitative Analysis* 49, 381-408.

Claessens, Stijn, Djankov Simeon, Joseph Fan, and Larry Lang, 2002, Disentangling the incentive and entrenchment effects of large shareholdings, *Journal of Finance* 57, 2741-2771.

Claessens, Stijn, Simeon Djankov, and Larry Lang, 2000, The separation of ownership and control in East Asian corporations, *Journal of Financial Economics* 58, 81-112.

Cohen, Alma, and Charles Wang, 2013, How do staggered boards affect shareholder value? Evidence from a natural experiment, *Journal of Financial Economics* 110, 627-641.

Core, John, Robert Holthausen, and David Larcker, 1999, Corporate governance, chief executive officer compensation, and firm performance, *Journal of Financial Economics* 51, 371-406.

Core, John, and Wayne Guay, 2002, Estimating the value of employee stock option portfolios and their sensitivities to price and volatility, *Journal of Accounting Research* 40, 613-630.

Cornett, Marcia Millon, Alan J. Marcus, and Hassan Tehranian, 2008, Corporate governance and pay-for-performance: The impact of earnings management, *Journal of Financial Economics* 87, 357-373.

Cremers, Martijn, Lubomir P. Litov, and Simone M. Sepe, 2017, Staggered boards and long-term firm value, revisited, *Journal of Financial Economics* 126, 422-444.

Cremers, Martijn, and Vishny Nair, 2005, Governance mechanisms and equity prices, *Journal of Finance* 60, 2859-2894.

Cremers, Martijn, Vinay Nair, and Chenyang Wei, 2007, Governance mechanisms and bond prices, *Review of Financial Studies* 20, 1359-1388.

Cuñat, Vicente , Mireia Gine, and Maria Guadalupe, 2012, The vote is cast: The effect of corporate governance on shareholder value, *Journal of Finance* 67, 1943-1977.

DeAngelo, Harry, and Linda DeAngelo, 2000, Controlling stockholders and the disciplinary role of corporate payout policy: A study of the times mirror company, *Journal of Financial Economics* 56, 153-207.

Dhillon, Upinder, and Herb Johnson, 1994, The effect of dividend changes on stock and bond prices, *Journal of Finance* 49, 281-189.

Emerging Market Research Institute, Credit Suisse, 2011, Asian family business report 2011.

Ertimur, Yonca, Fabrizio Ferri, and Stephen R. Stubben, 2010, Board of directors' responsiveness to shareholders: Evidence from shareholder proposals, *Journal of Corporate Finance* 16, 53-72.

Faccio, Mara, and Larry Lang, 2002, The ultimate ownership of western European corporations, *Journal of Financial Economics* 65, 365-395.

Faccio, Mara, Larry Lang, and Leslie Young, 2001, Dividends and expropriation, *American Economic Review* 91, 54-78.

Fahlenbrach, Rüdiger, 2009, Founder-CEOs, investment decisions, and stock market performance, *The Journal of Financial and Quantitative Analysis* 44, 439-466.

Faleye, Olubunmi, Rani Hoitash, and Udi Hoitash, 2011, The costs of intense board monitoring, *Journal of Financial Economics* 101, 160-181.

Fama, Eugene, and Michael Jensen, 1983, Separation of ownership and control, *Journal of Law and Economics* 26, 301-325.

Fama, Eugene, 1985, What's different about banks? *Journal of Monetary Economics* 15, 29-40.

Ferreira, Miguel, and Paul Laux, 2007, Corporate governance, idiosyncratic risk, and information flow, Review of Finance 62, 951-989.

Finkelstein, Sydney, and Richard D'Aveni, 1994, CEO duality as a double-edged sword: How boards of directors balance entrenchment avoidance and unity of command, *Academy of Management Journal* 37, 1079-1108.

Francis, Bill, Iftekhar Hasan, Kose John, and Maya Waisman, 2010, The effect of state antitakeover laws on the firm's bondholders, *Journal of Financial Economics* 96, 127-154.

Galai, Dan, and Ronald Masulis, 1976, The option pricing model and the risk factor of stock, *Journal of Financial Economics* 3, 53-81.

Gilson, Ronald , and Jeffrey Gordon, 2003, Controlling controlling shareholders, *University of Pennsylvania Law Review* 152, 785-843.

Gompers, Paul , Joy Ishii, and Andrew Metrick, 2010, Extreme governance: An analysis of dual-class firms in the United States, *Review of Financial Studies* 23, 1051-1088.

Gompers, Paul, Joy Ishii, and Andrew Metrick, 2003, Corporate governance and equity prices, *Quarterly Journal of Economics* 118, 107-155.

Gormley, Todd, and David Matsa, 2016, Playing it safe? Managerial preferences, risk, and agency conflicts, *Journal of Financial Economics* 122, 431-455.

Graham, John, Si Li, and Jiaping Qiu, 2008, Corporate misreporting and bank loan contracting, *Journal of Financial Economics* 89, 44-61.

Hallock, Kevin, 1997, Reciprocally interlocking boards of directors and executive compensation, *Journal of Financial and Quantitative Analysis* 32, 331-344.

Hazarika, Sonali, Jonathan M. Karpoff, and Rajarishi Nahata, 2012, Internal corporate governance, CEO turnover, and earnings management, *Journal of Financial Economics* 104, 44-69.

Hermalin, Benjamin, and Michael Weisbach, 1998, Endogenously chosen boards of directors and their monitoring of the CEO, *American Economic Review* 88, 96-118.

James, Christopher, 1987, Some evidence on the uniqueness of bank loans, *Journal of Financial Economics* 19, 217-235.

Jarrell, Gregg, and Annette Poulsen, 1988, Dual-class recapitalizations as antitakeover mechanisms: The recent evidence, *Journal of Financial Economics* 20, 129-152.

Jensen, Michael , 1986, Agency costs of free cash flow, corporate finance, and takeovers, *American Economic Review* 76, 323-329.

Jensen, Michael , and William Meckling, 1976, Theory of the firm: Managerial behavior, agency costs and ownership structure, *Journal of Financial Economics* 3, 305-360.

Johnson, William C., Jonathan M. Karpoff, and Sangho Yi, 2015, The bonding hypothesis of takeover defenses: Evidence from ipo firms, *Journal of Financial Economics* 117, 307-332.

Johnson William, Jonathan Karpoff, and Sangho Yi, 2012, Why do IPO firms have takeover defenses?, Working Paper.

Kadyrzhanova, Dalida, and Matthew Rhodes-Kropf, 2011, Concentrating on governance, *Journal of Finance* 66, 1649-1685.

Kalay, Avner, 1982, Stockholder-bondholder conflict and dividend constraints, *Journal of Financial Economics* 10, 211-233.

Kang, Jun-Koo, and Jungmin Kim, 2018, Do family firms invest more than nonfamily firms in employee-friendly policies?, *Management Science* (forthcoming).

Karpoff, Jonathan , and Paul Malatesta, 1989, The wealth effects of second-generation state takeover legislation, *Journal of Financial Economics* 25, 291-322.

Klock, Mark , Sattar Mansi, and William F. Maxwell, 2005, Does corporate governance matter to bondholders?, *Journal of Financial and Quantitative Analysis* 40, 693-719.

Lel, Ugur, and Darius P. Miller, 2015, Does takeover activity cause managerial discipline? Evidence from international M&A laws, *Review of Financial Studies* 28, 1588-1622.

Li, Feng, and Suraj Srinivasan, 2011, Corporate governance when founders are directors, *Journal of Financial Economics* 102, 454-469.

Lin, Chen, Yue Ma, Paul Malatesta, and Yuhai Xuan, 2011, Ownership structure and the cost of corporate borrowing, *Journal of Financial Economics* 100, 1-23.

Liu, Yukun, and Xi Wu, 2017, Shareholder activism, internal corporate governance and the cost of bank loans, Working paper.

Lummer, Scott, and John McConnell, 1989, Further evidence on the bank lending process and the capital-market response to bank loan agreements, Journal of Financial Economics 25, 99-122.

Masulis, Ronald, Cong Wang, and Fei Xie, 2007, Corporate governance and acquirer returns, *Journal of Finance* 62, 1851-1889.

Maxwell, William, and Clifford Stephens, 2003, The wealth effects of repurchases on bondholders, Journal of Finance 58, 895-919.

Mueller, Holger , and Thomas Philippon, 2011, Family firms and labor relations, *American Economic Journal: Macroeconomics* 3, 218-245.

Murfin, Justin, 2012, The supply-side determinants of loan contract strictness, *Journal of Finance* 67, 1565-1601.

Nguyen, B. D., and K.M. Nielsen, 2013, When blockholders leave feet first: Do ownership and control affect firm value? Working Paper.

Pérez-González, Francisco, 2006, Inherited control and firm performance, *American Economic Review* 96, 1559-1588.

Porta, Rafael La, Florencio Lopez-De-Silanes, and Andrei Shleifer, 1999, Corporate ownership around the world, *Journal of Finance* 54, 471-517.

Qi, Yaxuan, and John Wald, 2008, State laws and debt covenants, *Journal of Law and Economics* 51, 179-207.

Qiu, Jiaping, and Fan Yu, 2009, The market for corporate control and the cost of debt, *Journal of Financial Economics* 93, 505-524.

Rajan, Raghuram, and Andrew Winton, 1995, Covenants and collateral as incentives to monitor, *Journal of Finance* 50, 1113-1146.

Renneboog, Luc, and Peter G. Szilagyi, 2011, The role of shareholder proposals in corporate governance, *Journal of Corporate Finance* 17, 167-188.

Slovin, Myron, Shane Johonson, and John Glascock, 1992, Firm size and the information content of bank loan announcements, *Journal of Banking and Finance* 16, 1057-1071.

Smith, Clifford, and Jerold Warner, 1979, On financial contracting: an analysis of bond covenants, Journal of Financial Economics 7, 117-161.

Straska, Miroslava, and H. Gregory Waller, 2014, Antitakeover provisions and shareholder wealth: A survey of the literature, *Journal of Financial and Quantitative Analysis* 49, 933-956.

Teoh, Siew Hong, Ivo Welch, and T. J. Wong, 1998, Earnings management and long-term market performance of initial public offerings, Journal of Finance 53, 1935-1974.

Thomas, Randall S., and James F. Cotter, 2007, Shareholder proposals in the new millennium: Shareholder support, board response, and market reaction, *Journal of Corporate Finance* 13, 368-391.

Villalonga, Belen, and Raphael Amit, 2006, How do family ownership, control and management affect firm value?, *Journal of Financial Economics* 80, 385-417.

Villalonga, Belen, and Raphael Amit, 2009, How are U.S. Family firms controlled?, *Review of Financial Studies* 22, 3047-3091.

Villalonga, Belén, and Raphael Amit, 2010, Family control of firms and industries, *Financial Management* 39, 863-904.

Figure I
Distribution of Vote Shares for Shareholder-sponsored Proposals to Remove ATPs

The left figure presents a histogram of the distribution of vote shares for shareholder-sponsored proposals to remove antitakeover provisions (ATPs) across 40 equally spaced bins. The *x*-axis is the percentage of votes in favor of proposals to remove ATPs. The right figure plots the McCrary (2008) test of the distribution of vote shares on the proposals. The *x*-axis is the percentage of votes in favor of ATP proposals. The small circles depict the density estimates, and the solid line represents the fitted density function of vote shares with a 95% confidence interval around the fitted line. The sample consists of 865 shareholder-sponsored proposals voted on at shareholder meetings of 305 S&P 1500 firms covered in the Institutional Shareholder Services (ISS) Voting Analytics database from 2003 to 2011. We exclude firms that operate in utility (SIC codes between 4900 and 4999) and financial (SIC codes between 6000 and 6999) industries.

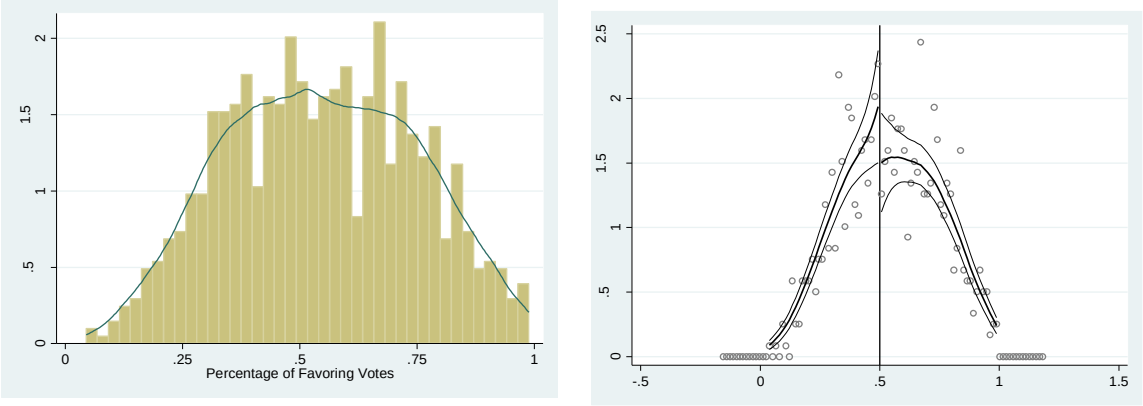


Figure 2

Regression Discontinuity Plots: Difference in Loan Spreads

The left (right) figure presents the regression discontinuity plots around the majority threshold for family firms (nonfamily firms). The *x*-axis is the distance of percentage of votes in favor for ATP proposals from the 50% majority threshold and the y-axis is the change in loan spreads. Each dot represents the average change in loan spread within 1% bin. The solid line is the predicted value from a regression with the second-order polynomials of voting shares.

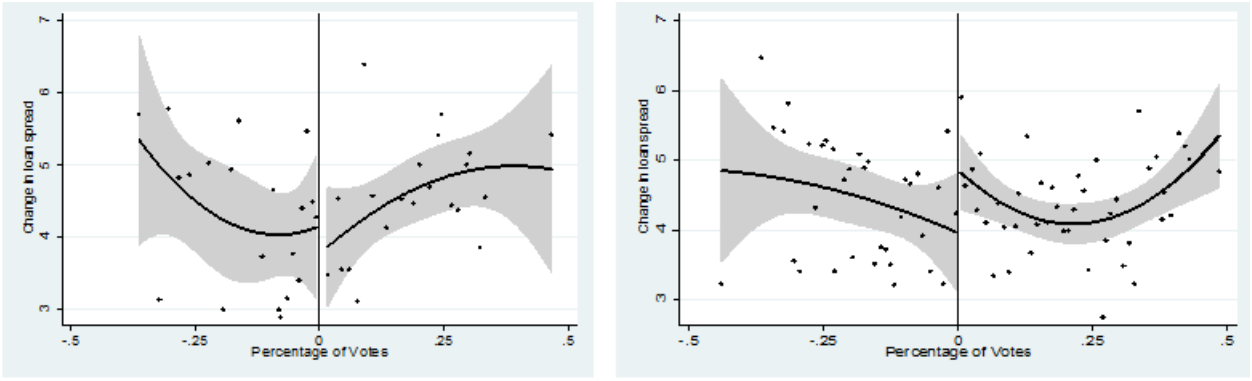


Table I
Sample Distribution by Family Control and Shareholder Meeting Year (Industry)

The table presents the distribution of sample firms by family control and shareholder meeting year (Panel A) and by family control and industry (Panel B). The sample consists of 259 annual shareholder meetings at which shareholder proposals to remove antitakeover provisions are voted on by 149 S&P 1500 firms covered in the Institutional Shareholder Services (ISS) Voting Analytics database from 2003 to 2011. We exclude firms that operate in utility (SIC codes between 4900 and 4999) and financial (SIC codes between 6000 and 6999) industries and those with missing stock return (financial) data in the CRSP (Compustat) database. We further require firms to have at least one loan issued during both one year prior to and three years after the shareholder meeting date. Family firms are defined as those in which founding family members, either individually or as a group, have equity ownership exceeding 5% or in which at least one founding family member sits on the board or is in top management.

Panel A: Distribution of sample shareholder meetings by family control and year

	Full sample	Family firms		Nonfamily firms	
Year	N	N	%	N	%
2003	60	14	23.33	46	76.67
2004	42	11	26.19	31	73.81
2005	30	4	13.33	26	86.67
2006	29	7	24.14	22	75.86
2007	22	7	31.82	15	68.18
2008	28	5	17.86	23	82.14
2009	21	4	19.05	17	80.95
2010	19	6	31.58	13	68.42
2011	8	2	25.00	6	75.00
Total	259	60	23.17	199	76.83

Panel B: Distribution of sample shareholder meetings by family control and industry (Fama-French 12 industry classification)

	Full sample	Family firms		Nonfamily firms	
Industry	N	N	%	N	%
Consumer Nondurables	17	6	35.29	11	64.71
Consumer Durables	25	8	32.00	17	68.00
Manufacturing	51	5	9.80	46	90.20
Energy	16	5	31.25	11	68.75
Chemicals and Allied Products	8	1	12.50	7	87.50
Business Equipment	20	3	15.00	17	85.00
Telephone and Television Transmission	12	4	33.33	8	66.67
Wholesale, Retail, and Some Services	54	15	27.78	39	72.22
Healthcare, Medical Equipment, and Drugs	18	4	22.22	14	77.78
Others	38	9	23.68	29	76.32
Total	259	60	23.17	199	76.83

Table II
Distribution of Proposals by Family Control and Shareholder Meeting Year

The table presents the distribution of the number of shareholder proposals to remove antitakeover provisions (ATPs) by family control and shareholder meeting year from 2003 to 2011 (Panel A) as well as the distribution of the number of shareholder proposals to remove ATPs by family control and proposal type (Panel B). The sample consists of 259 annual shareholder meetings at which shareholder proposals to remove antitakeover provisions are voted on by 149 S&P 1500 firms covered in the Institutional Shareholder Services (ISS) Voting Analytics database from 2003 to 2011. We exclude firms that operate in utility (SIC codes between 4900 and 4999) and financial (SIC codes between 6000 and 6999) industries and those with missing stock return (financial) data in the CRSP (Compustat) database. We further require firms to have at least one loan issued during both the periods one year prior to and three years after the shareholder meeting date. Family firms are defined as those in which founding family members, either individually or as a group, have equity ownership exceeding 5% or in which at least one founding family member sits on the board or is in top management.

Panel A. Distribution of shareholder proposals to remove ATPs by family control and shareholder meeting year

	Family firms				Nonfamily firms			
Meeting year	No. of proposals: A	No. of approved proposals: B	% of approved proposals: B/A	Average fraction of favoring votes	No. of proposals: C	No. of approved proposals: D	% of approved proposals: D/C	Average fraction of favoring votes
2003	17	9	52.9	0.58	57	41	71.9	0.57
2004	11	5	45.5	0.52	42	28	66.7	0.58
2005	4	2	50.0	0.55	30	22	73.3	0.58
2006	9	3	33.3	0.51	23	15	65.2	0.59
2007	7	2	28.6	0.41	17	6	35.3	0.46
2008	5	3	60.0	0.55	25	17	68.0	0.57
2009	5	3	60.0	0.63	21	14	66.7	0.57
2010	7	3	42.9	0.49	15	9	60.0	0.55
2011	2	1	50.0	0.65	7	4	57.1	0.54
Total	67	31	46.3	0.54	237	156	65.8	0.56

Panel B. Distribution of shareholder proposals to remove ATPs by family control and proposal type

	Family firms				Nonfamily firms			
Proposal type	No. of proposals: A	No. of approved proposals: B	% of approved proposals: B/A	Average fraction of favoring votes	No. of proposals: C	No. of approved proposals: D	% of approved proposals: D/C	Average fraction of favoring votes
Adopt anti-greenmail	0	0	-	-	1	1	100.0	0.55
Approve/amend terms of existing poison pill	1	0	0.0	0.47	2	0	0.0	0.12
Confidential voting	0	0	-	-	1	1	100.0	0.82
Restrict or eliminate change-in-control compensation for executives	7	4	57.1	0.53	27	18	66.7	0.52
Cumulative voting	7	0	0.0	0.33	42	3	7.1	0.35
Provide right to act by written consent	0	0	-	-	5	3	60.0	0.45
Redeem or vote poison pill	16	7	43.8	0.54	53	41	77.4	0.62
Reduce or eliminate supermajority provision	4	3	75.0	0.67	8	8	100.0	0.81
Remove antitakeover provisions and others	0	0	-	-	1	1	100.0	0.59
Repeal classified board	27	17	63.0	0.61	69	65	94.2	0.69
Shareholders may call special meeting	5	0	0.0	0.30	28	15	53.6	0.49
Total	67	31	46.3	0.54	237	156	65.8	0.56

Table III
Summary Statistics

The table presents summary statistics for sample firms. The sample consists of 259 annual shareholder meetings at which shareholder proposals to remove antitakeover provisions are voted on by 149 S&P 1500 firms covered in the Institutional Shareholder Services (ISS) Voting Analytics database from 2003 to 2011. We exclude firms that operate in utility (SIC codes between 4900 and 4999) and financial (SIC codes between 6000 and 6999) industries and those with missing stock return (financial) data in the CRSP (Compustat) database. We further require firms to have at least one loan issued during both one year prior to and three years after the shareholder meeting date. All firm and CEO characteristics are measured as of the fiscal year-end immediately before the shareholder meeting date. Loan characteristics are measured using a sample of 1,175 loans issued to 149 firms reported in the Loan Pricing Corporation's DealScan database during one year prior to the shareholder meetings. *Loan spread* is all-in-spread-drawn (AISD), a rate the borrower pays in basis points over LIBOR or the LIBOR equivalent for each dollar of loans drawn. *Loan commitment size* is the commitment amount of a loan, measured in millions of dollars. *Loan maturity* is measured in months. *Number of lenders* is the total number of lenders in the loan syndicate. *Number of covenants* is the sum of six dummies reflecting the following covenants: 1) collateral, 2) dividend restriction, 3) financial covenants, 4) asset sales sweep, 5) equity issuance sweep, and 6) debt issuance sweep. *Term loan* is an indicator that takes the value of one if the loan is a term loan and zero otherwise. Family firms are defined as those in which founding family members, either individually or as a group, have equity ownership exceeding 5% or in which at least one founding family member sits on the board or is in top management. The appendix provides detailed descriptions of the variables. The numbers in the test-of-difference columns are *p*-values.

	Full sample		Family firms: A		Nonfamily firms: B		Test of difference: A - B	
	Mean	Median	Mean	Median	Mean	Median	*t*-test	Wilcoxon *z*-test
Firm, CEO characteristics								
Market value ($ billions)	27.30	10.37	15.72	9.50	30.79	10.68	0.045	0.153
Tobin's *q*	1.60	1.38	1.69	1.53	1.58	1.36	0.300	0.280
Net profit margin	0.11	0.10	0.11	0.10	0.11	0.10	0.963	0.931
Capital expenditure / total assets	0.05	0.04	0.07	0.04	0.05	0.04	0.001	0.312
Leverage	0.24	0.23	0.22	0.20	0.25	0.24	0.072	0.013
Dividend payout ratio	0.02	0.01	0.01	0.01	0.02	0.01	0.201	0.378
CEO wealth-performance sensitivity	15.67	5.26	39.16	9.24	8.62	4.71	0.003	0.000
CEO delta	1001.18	454.39	2099.28	524.85	651.23	434.31	0.000	0.070
CEO excess pay	0	0.03	-0.09	0.06	0.03	0.01	0.206	0.790
Proportion of nonfamily independent directors	0.85	0.89	0.77	0.78	0.88	0.90	0.000	0.000
Institutional ownership	0.29	0.28	0.28	0.28	0.29	0.28	0.410	0.511
Herfindahl index	0.11	0.06	0.11	0.06	0.11	0.07	0.898	0.810
Loan characteristics								
Loan spread (basis points)	134.43	73	117.79	66.85	139.12	75	0.203	0.420
Loan commitment size ($ millions)	1215.31	653.1	940.09	625	1292.74	700	0.136	0.176
Loan maturity (months)	37.27	36	41.05	48	36.21	36	0.090	0.035
Number of lenders	14.27	13	13.59	13	14.46	13	0.432	0.916
Number of covenants	2.88	2	2.87	2	2.88	2	0.954	0.793
Term loan (indicator)	0.19	0	0.13	0	0.2	0	0.107	0.107

Table IV
Pre-existing Differences in Loan Spreads and Firm Characteristics as a Function of Vote Outcomes

The table presents pre-existing differences in loan spreads (Panel A) and firm characteristics (Panel B) between firms that marginally pass proposals to remove antitakeover provisions (ATPs) and those that marginally reject these proposals. The sample consists of 419 loans issued to 149 S&P 1500 firms that are covered in the Institutional Shareholder Services (ISS) Voting Analytics database and whose shareholders vote on proposals to remove ATPs at a shareholder meeting from 2003 to 2011. We require firms to have at least one loan issued during both one year prior to and three years after the shareholder meeting date. Each panel reports the coefficients on *Pass* (the number of ATP-removal proposals that are passed at the shareholder meeting) estimated from the regressions with the following dependent variables: the natural logarithm of loan spreads one year prior to a shareholder meeting in Panel A and the levels of firm characteristics measured one year prior to a shareholder meeting year, $year_{t-1}$ (columns (1) and (2)) and changes in firm characteristics from year $_{t-2}$ to year $_{t-1}$ (columns (3) and (4)) in Panel B. Columns (1) and (3) do not control for polynomials of the vote-for shares (i.e., estimating the average pre-existing differences in characteristics), while columns (2) and (4) control for polynomials of the vote-for shares of order three on either side of the threshold (i.e., estimating the effects at the discontinuity). The loan spread is measured as a rate a borrower pays in basis points over LIBOR or the LIBOR equivalent. All regressions control for year fixed effects. The appendix provides detailed descriptions of the variables. *P*-values are reported in parentheses, and standard errors are adjusted for heteroskedasticity and firm clustering. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Pre-existing differences in loan spreads prior to shareholder meetings

	Polynomials not controlled for	Polynomials controlled for
Dependent variable	(1)	(2)
Log (loan spread)	0.078	0.494*
	(0.63)	(0.06)

Panel B: Pre-existing differences in firm characteristics prior to shareholder meetings

	$Year_{t-1}$		Change from $year_{t-2}$ to $year_{t-1}$	
	Polynomials not controlled for	Polynomials controlled for	Polynomials not controlled for	Polynomials controlled for
Dependent variable	(1)	(2)	(3)	(4)
Family firm (indicator)	-0.135**	-0.172	n.a.	n.a.
	(0.05)	(0.25)		
Log (market value)	-0.241	0.569	-0.008	0.051
	(0.21)	(0.17)	(0.83)	(0.64)
Leverage	-0.009	-0.018	0.013	-0.002
	(0.62)	(0.58)	(0.13)	(0.91)
Tobin's *q*	-0.005	-0.424**	-0.069*	0.071
	(0.95)	(0.02)	(0.09)	(0.68)
Net profit margin	0.001	-0.058	-0.003	-0.003
	(0.93)	(0.11)	(0.46)	(0.82)
Capital expenditure / assets	-0.004	-0.014	-0.001	0.003
	(0.32)	(0.27)	(0.58)	(0.65)

Table V
Effects of Passing Shareholder Proposals to Remove Antitakeover Provisions (ATPs) on Loan Spreads

The table presents estimates of OLS regressions in which the dependent variable is the natural logarithm of all-in-spread-drawn (AISD), a rate a borrower pays in basis points over LIBOR or the LIBOR equivalent. The sample consists of 756 loans issued by 149 S&P 1500 firms that are covered in the Institutional Shareholder Services (ISS) Voting Analytics database and whose shareholders make a proposal to remove the antitakeover provision (ATP) at a shareholder meeting from 2003 to 2011. We require firms to issue at least one loan issued during both one year prior to and three years after a shareholder meeting date. *Pass* is the number of ATP-removal proposals that are passed at the shareholder meeting. In columns (1), (2) and (3), we use a pooled sample of family and nonfamily firms in estimating the regressions that control for the polynomials of the vote-for percentage of orders two, three, and four, respectively. In columns (4), (5), and (6) (columns (7), (8), and (9)), we use a subsample of family (nonfamily) firms. Family firms are defined as those in which founding family members, either individually or as a group, have equity ownership exceeding 5% or in which at least one founding family member sits on the board or is in top management. The appendix provides detailed descriptions of the variables. *P*-values are reported in parentheses, and standard errors are adjusted for heteroskedasticity and firm clustering. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Log (loan spread)								
	Full sample			Family firms			Nonfamily firms		
Independent variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Pass	0.383	0.491	0.746*	-0.559*	-0.847**	-0.429	0.461	0.716*	0.976**
	(0.25)	(0.23)	(0.10)	(0.10)	(0.03)	(0.47)	(0.19)	(0.08)	(0.02)
Polynomial order	2	3	4	2	3	4	2	3	4
Distance-to-meeting fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Test of difference in coefficient estimates on *Pass* between family and nonfamily firms									
							(0.00)	(0.00)	(0.00)
Number of observations	756	756	756	141	141	141	615	615	615
Adj. R^2	0.24	0.28	0.29	0.58	0.60	0.61	0.22	0.25	0.27

Table VI
Effects of Passing Shareholder Proposals to Remove Antitakeover Provisions (ATPs) on Loan Spreads: Subsample Analyses According to Internal (External) Corporate Governance

The table presents estimates of OLS regressions in which the dependent variable is the natural logarithm of all-in-spread-drawn (AISD), a rate a borrower pays in basis points over LIBOR or the LIBOR equivalent. The sample consists of 756 loans issued to 149 S&P 1500 firms that are covered in the Institutional Shareholder Services (ISS) Voting Analytics database and whose shareholders vote on a proposal to remove the antitakeover provision (ATP) at a shareholder meeting from 2003 to 2011. We require firms to have at least one loan issued during both one year prior to and three years after the shareholder meeting date. *Pass* is the number of ATP-removal proposals that are passed at the shareholder meeting. All regressions control for the polynomials of the vote-for percentage of order three, distance-to-meeting fixed effects, and year fixed effects. We classify the sample into high- and low-characteristic firms according to the sample median of each characteristic. Family firms are defined as those in which founding family members, either individually or as a group, have equity ownership exceeding 5% or in which at least one founding family member sits on the board or is in top management. The appendix provides detailed descriptions of the variables. *P*-values are reported in parentheses, and standard errors are adjusted for heteroskedasticity and firm clustering. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Family firms		Nonfamily firms		Test of equal coefficients between	
	High-characteristic firms: A	Low-characteristic firms: B	High-characteristic firms: C	Low-characteristic firms: D	A and B	C and D
Panel A: CEO compensation						
CEO wealth-performance sensitivity:						
Pass	-1.751**	-0.833	0.303	0.525**	(0.51)	(0.03)
	(0.02)	(0.11)	(0.54)	(0.02)		
Number of observations	74	67	309	306		
Adj. R^2	0.58	0.70	0.40	0.34		
CEO delta:						
Pass	-1.078**	-2.919	0.715	0.057	(0.17)	(0.09)
	(0.02)	(0.10)	(0.15)	(0.88)		
Number of observations	70	71	356	259		
Adj. R^2	0.793	0.438	0.340	0.261		
CEO excess pay (residuals from a regression predicting CEO pay as a function of pay determinants):						
Pass	0.553	-3.026***	1.524**	-0.189	(0.00)	(0.00)
	(0.36)	(0.00)	(0.01)	(0.76)		
Number of observations	75	61	302	281		
Adj. R^2	0.73	0.73	0.40	0.24		
Panel B: Other internal corporate governance						
Proportion of nonfamily independent directors:						
Pass	-0.968**	-0.034	0.508	1.419**	(0.28)	(0.03)
	(0.05)	(0.98)	(0.20)	(0.03)		
Number of observations	79	62	347	268		
Adj. R^2	0.68	0.72	0.42	0.23		
Institutional ownership:						
Pass	-2.726**	1.667	0.587	-0.085	(0.00)	(0.10)
	(0.01)	(0.39)	(0.20)	(0.86)		
Number of observations	65	66	250	253		
Adj. R^2	0.64	0.86	0.34	0.30		
Panel C: External corporate governance						
Product market competition:						
Pass	-3.661***	-0.081	0.247	0.627	(0.00)	(0.30)
	(0.00)	(0.87)	(0.56)	(0.19)		
Number of observations	71	69	299	294		
Adj. R^2	0.51	0.92	0.39	0.32		

Table VII
Effects of Passing Shareholder Proposals to Remove Antitakeover Provisions (ATPs) on Loan Spreads: Subsample Analyses According to Debtholder Friendliness and Default Risk

The table presents estimates of OLS regressions in which the dependent variable is the natural logarithm of all-in-spread-drawn (AISD), a rate a borrower pays in basis points over LIBOR or the LIBOR equivalent. The sample consists of 756 loans issued to 149 S&P 1500 firms that are covered in the Institutional Shareholder Services (ISS) Voting Analytics database and whose shareholders vote on a proposal to remove the antitakeover provision (ATP) at a shareholder meeting from 2003 to 2011. We require firms to have at least one loan issued during both one year prior to and three years after the shareholder meeting date. *Pass* is the number of ATP-removal proposals that are passed at the shareholder meeting. All regressions control for the polynomials of the vote-for percentage of order three, distance-to-meeting fixed effects, and year fixed effects. We classify the sample into high- and low-characteristic firms according to the sample median of each characteristic. Family firms are defined as those in which founding family members, either individually or as a group, have equity ownership exceeding 5% or in which at least one founding family member sits on the board or is in top management. The appendix provides detailed descriptions of the variables. *P*-values are reported in parentheses, and standard errors are adjusted for heteroskedasticity and firm clustering. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Family firms		Nonfamily firms		Test of equal coefficients between	
	High-characteristic firms: A	Low-characteristic firms: B	High-characteristic firms: C	Low-characteristic firms: D	A and B	C and D
Panel A: Debtholder friendliness						
Dividend payout ratio:						
Pass	-0.652	-0.952**	0.066	0.150	(0.64)	(0.82)
	(0.44)	(0.04)	(0.88)	(0.67)		
Number of observations	71	69	295	298		
Adj. R^2	0.64	0.60	0.27	0.36		
Discretionary current accrual:						
Pass	-0.471	-2.271***	0.660	0.446	(0.00)	(0.64)
	(0.20)	(0.00)	(0.30)	(0.25)		
Number of observations	65	62	276	271		
Adj. R^2	0.64	0.60	0.30	0.24		
Total accrual:						
Pass	-1.202	-1.106**	1.077*	0.217	(0.09)	(0.04)
	(0.16)	(0.04)	(0.07)	(0.64)		
Number of observations	71	70	313	302		
Adj. R^2	0.74	0.57	0.36	0.24		
Number of analysts following:						
Pass	-0.693*	1.406	1.123***	0.762**	(0.58)	(0.33)
	(0.06)	(0.76)	(0.01)	(0.03)		
Number of observations	74	67	317	298		
Adj. R^2	0.75	0.68	0.28	0.32		
Analyst forecast dispersion:						
Pass	-0.492*	-2.170**	-0.530	1.497***	(0.05)	(0.00)
	(0.08)	(0.04)	(0.39)	(0.00)		
Number of observations	71	70	310	305		
Adj. R^2	0.59	0.54	0.27	0.39		
Panel B: Default risk						
Leverage:						
Pass	-2.711***	-0.151	0.495	0.713*	(0.00)	(0.54)
	(0.01)	(0.75)	(0.24)	(0.07)		
Number of observations	70	70	293	300		
Adj. R^2	0.68	0.69	0.43	0.27		
Operating income volatility:						

Pass	-0.692*	-0.620	0.715	-0.342	(0.91)	(0.01)
	(0.06)	(0.49)	(0.13)	(0.56)		
Number of observations	71	70	308	307		
Adj. R^2	0.68	0.52	0.22	0.35		
Stock return volatility:						
Pass	-0.847*	-1.448	0.229	0.656	(0.48)	(0.83)
	(0.09)	(0.25)	(0.56)	(0.30)		
Number of observations	70	71	317	298		
Adj. R^2	0.60	0.57	0.32	0.28		
Altman's Z-score						
Pass	-0.941	-0.998***	0.430	0.348	(0.94)	(0.86)
	(0.25)	(0.00)	(0.35)	(0.47)		
Number of observations	46	47	270	269		
Adj. R^2	0.59	0.33	0.31	0.21		

Table VIII
Change Regression

The table presents estimates of OLS regressions in which the dependent variable is the change in the natural logarithm of all-in-spread-drawn (AISD), a rate a borrower pays in basis points over LIBOR or the LIBOR equivalent. The sample consists of 222 firm-year (78 family firm-year and 144 nonfamily firm-year) observations from 1993 to 2006. We start with S&P 1500 firms covered in the ExecuComp and Loan Pricing Corporation's DealScan databases from 1993 to 2006. We then exclude firms that operate in utility (SIC codes between 4900 and 4999) and financial (SIC codes between 6000 and 6999) industries, those with missing stock return (financial) data in the CRSP (Compustat) database, and those that experience no changes in the G-index across two consecutive years. We use only the first loan observation when a firm has multiple loans issued in a given year. All independent variables are measured as the changes from $year_{t-1}$ to $year_t$. Family firms are defined as those in which founding family members, either individually or as a group, have equity ownership exceeding 5% or in which at least one founding family member sits on the board or is in top management. The appendix provides detailed descriptions of the variables. *P*-values are reported in parentheses, and standard errors are adjusted for heteroskedasticity and firm clustering. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Δ Log (loan spread)		
	Full sample	Family firms	Nonfamily firms
	(1)	(2)	(3)
Δ G-index	-0.003	0.053**	-0.037*
	(0.875)	(0.038)	(0.085)
Δ Log (market value)	-0.111	-0.339***	0.020
	(0.257)	(0.008)	(0.841)
Δ Leverage	1.592***	0.630	2.271***
	(0.001)	(0.464)	(0.000)
Δ Tobin's *q*	0.098	0.191*	0.032
	(0.121)	(0.067)	(0.587)
Δ Net profit margin	0.360	2.288**	-0.836
	(0.636)	(0.020)	(0.238)
Constant	0.027	0.114**	-0.024
	(0.349)	(0.027)	(0.482)
Test of difference in coefficients on Δ G-index between family and nonfamily firms			
		(0.00)	
Number of observations	222	78	144
Adj. R^2	0.101	0.089	0.163

Table IX
Effects of Passing Shareholder Proposals to Remove Antitakeover Provisions (ATPs) on Changes in Loan Spreads

The table presents estimates of OLS regressions in which the dependent variable is the change in the natural logarithm of all-in-spread-drawn (AISD), a rate a borrower pays in basis points over LIBOR or the LIBOR equivalent. The sample consists of 756 loans issued to 149 S&P 1500 firms that are covered in the Institutional Shareholder Services (ISS) Voting Analytics databases and whose shareholders vote on a proposal to remove the antitakeover provision (ATP) at a shareholder meeting from 2003 to 2011. We require firms to have at least one loan issued during both one year prior to and three years after the shareholder meeting date. The change in loan spreads for each firm is estimated by subtracting the logarithm of loan spread in the year before from that for loans issued in three years after the shareholder meeting. If firms issue multiple loans in the year prior to shareholder meetings, we use the first loan to calculate loan spread changes. *Pass* is the number of ATP-removal proposals that are passed at the shareholder meeting. In columns (1), (2) and (3), we use a pooled sample of family and nonfamily firms in estimating the regressions that control for the polynomials of the vote-for percentage of orders two, three, and four, respectively. In columns (4), (5), and (6) (columns (7), (8), and (9)), we use a subsample of family (nonfamily) firms. Family firms are defined as those in which founding family members, either individually or as a group, have equity ownership exceeding 5% or in which at least one founding family member sits on the board or is in top management. The appendix provides detailed descriptions of the variables. *P*-values are reported in parentheses, and standard errors are adjusted for heteroskedasticity and firm clustering. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Change in log (loan spread)								
	Full sample			Family firms			Nonfamily firms		
Independent variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Pass	0.074	0.001	0.245	-0.501**	-0.200	-0.698**	0.180	0.050	0.339
	(0.71)	(1.00)	(0.50)	(0.04)	(0.40)	(0.05)	(0.43)	(0.88)	(0.38)
Polynomial order	2	3	4	2	3	4	2	3	4
Distance-to-meeting fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Test of difference in coefficients on *Pass* between family and nonfamily firms									
							(0.00)	(0.37)	(0.00)
Number of observations	756	756	756	141	141	141	615	615	615
Adj. R^2	0.210	0.209	0.213	0.391	0.393	0.432	0.204	0.207	0.215

Table X
Placebo Test: Discontinuity around Artificial Threshold

The table presents estimates of our main regressions in Table V by assuming artificial thresholds of proposal approval other than the 50% majority threshold. The sample consists of 756 loans issued to 149 S&P 1500 firms that are covered in the Institutional Shareholder Services (ISS) Voting Analytics database and whose shareholders vote on a proposal to remove the antitakeover provision (ATP) at a shareholder meeting from 2003 to 2011. We require firms to have at least one loan issued during both one year prior to and three years after the shareholder meeting date. *Pass* is the number of ATP-removal proposals that are passed at the shareholder meeting. In columns (1)-(3), columns (4)-(6), and columns (7)-(9)), we assume the threshold of passing ATP proposals to be 45%, 55%, and 65%, respectively. All columns control for the polynomials of the vote-for percentage of order three. Family firms are defined as those in which founding family members, either individually or as a group, have equity ownership exceeding 5% or in which at least one founding family member sits on the board or is in top management. The appendix provides detailed descriptions of the variables. *P*-values are reported in parentheses, and standard errors are adjusted for heteroskedasticity and firm clustering. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Log (loan spread)								
	Artificial Threshold = 45%			Artificial Threshold = 55%			Artificial Threshold = 65%		
	Full sample	Family firms	Nonfamily firms	Full sample	Family firms	Nonfamily firms	Full sample	Family firms	Nonfamily firms
Independent variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Pass	-0.011	-0.288	-0.029	-0.791	-1.551	-0.749	1.432	-6.323	1.713
	(0.97)	(0.26)	(0.92)	(0.30)	(0.17)	(0.37)	(0.75)	(0.39)	(0.73)
Polynomial order	3	3	3	3	3	3	3	3	3
Distance-to-meeting fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Test of difference in coefficients on *Pass* between family and nonfamily firms									
							(0.27)	(0.30)	(0.12)
Number of observations	756	141	615	756	141	615	756	141	615
Adj. R^2	0.250	0.546	0.212	0.249	0.521	0.220	0.226	0.518	0.190

Table XI
Effects of Passing Shareholder Proposals to Remove Antitakeover Provisions (ATPs) on Post-Passage Corporate Governance

The table presents estimates of OLS regressions (*Eq.* (1)) in which the dependent variable is the change in the E-index (Bechuk, Cohen and Ferrel (2009)), measured as the difference between a firm's pre-meeting E-index and its E-indexes in the three years after the shareholder meeting. The sample consists of 259 shareholder meetings held by 149 S&P 1500 firms that are covered in the Institutional Shareholder Services (ISS) Voting Analytics database and whose shareholders vote on a proposal to remove the antitakeover provision (ATP) at the shareholder meeting from 2003 to 2011. We require firms to have at least one loan issued during both one year prior to and three years after the shareholder meeting date. *Pass* is the number of ATP-removal proposals that are passed at the shareholder meetings. In columns (1), (2) and (3), we use a pooled sample of family and nonfamily firms in estimating the regressions that control for the polynomials of the vote-for percentage of orders two, three, and four, respectively. In columns (4), (5), and (6) (columns (7), (8), and (9)), we use a subsample of family (nonfamily) firms. Family firms are defined as those in which founding family members, either individually or as a group, have equity ownership exceeding 5% or in which at least one founding family member sits on the board or is in top management. The appendix provides detailed descriptions of the variables. *P*-values are reported in parentheses, and standard errors are adjusted for heteroskedasticity and firm clustering. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Change in E-Index								
	Full sample			Family firms			Nonfamily firms		
Independent variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Pass	-0.389**	-0.748***	-0.541**	-0.615*	-0.843	-1.275**	-0.445**	-0.630**	-0.427
	(0.03)	(0.00)	(0.05)	(0.10)	(0.10)	(0.03)	(0.03)	(0.01)	(0.12)
Polynomial order	2	3	4	2	3	4	2	3	4
Distance-to-meeting fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Test of difference in coefficients on *Pass* between family and nonfamily firms									
							(0.39)	(0.22)	(0.02)
Number of observations	693	693	693	161	161	161	532	532	532
Adj. R^2	0.181	0.192	0.195	0.236	0.246	0.250	0.182	0.185	0.189

Appendix

This appendix provides a detailed description of the construction of all variables used in the tables.

Variable	Definition	Source
Altman's Z-score	1.2 x (current assets - current liabilities) / total assets + 1.4 x (retained earnings / total assets) + 3.3 x (pretax income / total assets) + 0.6 x (market capitalization / total liabilities) + 0.9 x (sales / total assets)	
Analyst following	Number of analysts with estimates of current-year EPS, as reported in the I/B/E/S Summary File in the month prior to the fiscal year-end	I/B/E/S
Capital expenditure / total assets	Capital expenditures / total assets	Compustat
CEO delta	Dollar change in a CEO's stock and option portfolio for a one-percent change in the stock price	ExecuComp
CEO excess pay	Residual estimated from the following OLS regression: Log (CEO compensation) = constant + log (market value) + ROA + book-to-market ratio + standard deviation (ROA) + standard deviation (stock returns) + year and Fama-French (1997) 48 industry dummies. CEO compensation is the ExecuComp variable (TDC1) that includes salary, bonus, restricted stock awards, stock option grants, long-term incentive payouts, and all others (Faleye, Hoitash, Hoitash (2011)	ExecuComp, Compustat, CRSP
CEO tenure	Number of years the CEO has served as CEO	ExecuComp
CEO wealth-performance sensitivity	Dollar change in CEO wealth for a one-percentage-point change in firm value, scaled by CEO annual pay (Edmans, Gabaix, and Landier (2009))	Edmans' website
Discretionary current accrual	Absolute value of (Current accrual$_t$ / total assets$_{t-1}$) – nondiscretionary current accrual$_t$, where nondiscretionary current accruals are estimated from the following cross-sectional OLS regression using a sample of all two-digit SIC code peers: Current accrual$_t$ / total assets$_{t-1}$ = (1 / total assets$_{t-1}$) + (Δsales$_t$ / total assets$_{t-1}$)/ total assets$_{t-1}$) (Teoh, Welch and Wong (1998))	Compustat
Distance-to-meeting fixed effect	Fixed effect for the year of loan issuance relative to the shareholder meeting. To account for the negotiating period before loan initiation, the loan start date in DealScan is adjusted to three months earlier (Murfin, Justin (2012))	
Dividend payout ratio	Cash dividend / total assets	Compustat
E-index	Entrenchment index from Bechuk, Cohen and Ferrell (2009): the sum of the number of six antitakeover provisions (classified board, limitation on amending bylaws, limitation on amending the charter, supermajority to approve a merger, golden parachute, and poison pill) in place	
Family firm (indicator)	One for a firm in which founding family members, either individually or as a group, have block equity ownership or at least one founding family member sits on the board or is in top management and zero otherwise	Various sources
Forecast dispersion	Standard deviation of analyst forecasts / mean of forecasts by all analysts	I/B/E/S
Herfindahl index	Sum of squared market shares of firms' sales at the Fama-French 48 industry level	Compustat
Institutional ownership	Fraction of shares owned by top five institutional investors in the quarter that ends prior to the meeting date	Thomson-Reuters Institutional (13F) Holdings
Leverage	Long-term debt / total assets	Compustat
Loan spread (basis points)	All-in-spread-drawn (AISD), a rate the borrower pays in basis points over LIBOR or the LIBOR equivalent for each dollar of loans drawn	DealScan
Market value ($ billions)	Market value of equity	Compustat
Net profit margin	Operating income before depreciation / sales	Compustat

Operating income volatility	Standard deviation of quarterly operating income after depreciation during five years prior to the meeting date	Compustat quarterly
Pass	Number of ATP-removal proposals that are passed at the shareholder meeting	
Proportion of nonfamily independent directors	Ratio of the number of nonfamily independent directors to the total number of directors on the board	RiskMetrics
ROA	Operating income before depreciation / total assets	Compustat
ROE	Operating income before depreciation / (book value of equity + deferred taxes and investment tax credit)	Compustat
Stock return volatility	Standard deviation of daily stock return over one year prior to the meeting date	CRSP
Tobin's *q*	(Market value of equity + total assets - book value of equity- deferred taxes and investment tax credit) / total assets	Compustat
Total accrual	Net income – cash flow from operations	Compustat
Year fixed effect	Fixed effect for the calendar year of a shareholder meeting	

Chapter 3
Spillover Effect in Corporate Governance: Evidence from Passing Proposals Related to Removing Antitakeover Provisions

Abstract

Using a regression discontinuity design (RDD) that relies on locally exogenous variation generated by shareholder proposal votes, this paper investigates the spillover effect of passing shareholder-sponsored proposals related to removing antitakeover provisions (ATP proposal) on industry peers. We find that rival firms in the same industry experience negative stock price reactions to the announcement of the passage of an ATP proposal by a voting firm. This negative spillover effect is more pronounced for rival firms operating in industries with low concentration (Herfindahl-Hirschman index), where acquisition activities/approvals are not extensively regulated by antitrust policies and thus the takeover incidence is expected to be high. The negative abnormal returns are also significantly larger for rival firms that are more likely to receive takeover bids ex ante and those with weaker antitakeover defenses than the voting firm before shareholder meeting. These results suggest that although removal of ATPs by a voting firm increases its takeover vulnerability, it reduces the likelihood of peer firms' future takeover, particularly those with weak takeover protections.

Keywords: Antitakeover provision, Spillover effect, Takeover probability, Regression discontinuity

JEL Classification: G14, G32, G34

The behavior of corporate governance in one firm generate externalities on industry peer firms. For example, Ertimur, Ferri and Stubben (2010) find that despite the non-binding feature of majority-vote shareholder proposals, boards are more likely to implement a governance-related proposal, particularly those suggesting to reduce antitakeover defenses, if peer firms adopt a similar proposal recently. John and Kadyrzhanova (2008) document a clustering of antitakeover provisions among peer firms.[1] Particularly, firms are less likely to adopt antitakeover provisions if peer firms have few antitakeover defenses. Moreover, they find that the agency problem associated antitakeover provisions (ATPs) are exacerbated if the peer firms on average have fewer antitakeover defenses. In addition, the adoption of ATPs reduces takeover bids incidence and likelihood of bids completion only when peer firms have stronger takeover protection (John and Kadyrzhanova (2010)). The evidence indicates that there is spillover effect in corporate governance. However, despite the burgeoning literature on spillover effects of corporate policies including cash holding, capital structure, dividend payment and investment, spillover effect along corporate governance dimension is still unexplored. [2]

We investigate the spillover effect of removing antitakeover provisions on peer firms in the same industry. The removal of ATPs in one firm may influence peer firms in the same industry in two ways. On one hand, more exposure the takeover market associated with fewer ATPs bring external disciplinary power on management, thereby improving the firms' production and investment efficiencies (Cuñat, Gine and Guadalupe (2012), Masulis,

[1] John and Kadyrzhanova (2010) define peer firms by geographical proximity. However, the main idea of their study is that peer firms tend to be fungible takeover targets, which could also be applied to industry peer. In addition, they find stronger fungibility among firms in the same industry and geographic area.
[2] See Hoberg, Phillips and Prabhala (2014), Leary and Roberts (2014), Massa, Rehman and Vermaelen (2007), Dessaint, Foucault, Frésard and Matray (2016), Foucault and Fresard (2014).

Wang and Xie (2007), Duchin and Sosyura (2013), Giroud and Mueller (2011)). The competition advantages formed by better corporate governance generate competition pressures on rival firms in the same industry. In anticipation of the intensified product market competition, the shareholders of rival firms may respond negatively to the removal of ATPs by one firm in the same industry. On the other hand, fewer ATPs leads to higher takeover likelihood (Cuñat, Gine and Guadalupe (2017)). Firms in the same industry are fungible targets for potential outside bidders (John and Kadyrzhanova (2008, 2010)). Therefore, the variation of takeover protection in one firm does not only change its probability of being taken over, but also influences industry peers' likelihood to receive takeover bids. Specifically, when one firm remove ATPs and thus become more attractive to potential bidders, other firms in the same industry will be less likely to be targeted, indicating weakened external monitoring from takeover market in these firms.

Both the spillover effect arising from the competition in product market ("competition effect") and the fungibility in takeover market ("takeover probability effect") suggest peer firms' negative stock market reactions to removal of ATPs. However, as other studies on peer effects (Gantchev, Gredil and Jotikasthira (2016); Leary and Roberts (2014)), empirically identifying the peer effects in corporate governance is challenging due to two endogeneity concerns. First is the "reflection problem" arising when the selection of corporate governance are correlated due to common industry factor. As a result, the observed changes in firm value or corporate governance policy subsequent to the removal of ATPs by peer firms may just reveal unobserved change in the industry. For example, as most firms in the industry grow mature, the agency costs of entrenched management may exceeds benefit of bonding explicit and implicit commitments to stakeholders brought by

antitakeover defenses (Johnson, Karpoff and Yi (2015); Johnson, Karpoff and Yi (2018)), inducing a wave of removing ATPs and general value deterioration in mature peer firms that have not remove. Another concern is that ATPs are endogenously determined by unobserved firm characteristics. As a result, it is difficult to distinguish whether the response in peer firms is driven by the action of removing takeover defenses or the underlying firm changes (e.g., profitability, growth opportunities) that drive this action. To address the endogeneity issues, we examine the spillover impact of shareholder-sponsored proposals related to removing antitakeover provisions (ATP proposals) using regression discontinuity design (RDD). This method exploits vote outcomes that are random in a narrow range around the majority threshold and result in a discrete change in the probability of removing ATPs. By focusing on "close call" proposals that are passed or rejected randomly, we can estimate a causal impact of removing ATPs. Using 883 shareholder-sponsored proposals related to remove antitakeover provisions (ATP proposal) that are submitted to vote in shareholder meetings over 2003-2012, with 16,502 industry peer firms, we find that on average passing an ATP proposal cause significantly negative abnormal returns on peer firms, which amount to -1.56% (-1.97) at portfolio (individual firm) level three-day event window around shareholder meeting. This result provides evidence on negative spillover impact of improved corporate governance in one firm.

To examine the channels through which removing ATP proposals generate peer impact, we further examine the cross-sectional variation in the abnormal returns to peer firms based on industry and peer firm characteristics. The channel "competition effect" argues that the improvement in investment, capital allocation and productivity efficiency incurred by removing ATPs weaken competitors through grabbing market share and

predating actions. To the extent that firms in the same industry are more likely to compete on the basis of strategic substitutes (i.e. the improvement in one firm's competition position weaken rivals' market power) in industries with imperfect competition, the negative spillover effect should be more pronounced in concentrated industry. In addition, industry competition is an alternative mechanism of corporate governance to discipline management. Giroud, Mueller ((2011) argue that the value-increasing impact of good corporate governance concentrate on non-competitive industries. To the extent that firms benefit more from removing ATPs, thereby putting more competition pressure on rivals, we expect a stronger negative spillover effect in concentrated industries. In contrast, the "takeover probability" hypothesis generate opposite implications. The takeover likelihood is less concerned in concentrated industries since acquisition activities are strictly regulated by antitrust authorities (Eckbo (1992); Song and Walkling (2000)). If removing ATPs adversely impact peer firms by shifting takeover disciplinary power away from them, we expect this effect is stronger in less concentrated (more competitive) industries where takeover incidence is expected to be high due to absence of regulations. Using the product market concentration based on Herfindahl-Hirschman Index, we find that negative abnormal returns on peer firms concentrate in more competitive industries (low Herfindahl-Hirschman index). Our evidence is consistent with the "takeover probability" view.

To shed additional light on how removing ATPs reshape the takeover market structure by changing the relative corporate governance power of industry peers, we further develop cross-sectional analysis based on rival firm characteristics. If market anticipates decrease in takeover likelihood of peer firms subsequent to removal of ATPs and adjust evaluation in response, the downward value revision should be more evident for firms that

are more attractive to bidders ex ante. Prior literature on acquisition prediction models suggest a set of firm characteristics that are associated with the high likelihood of being targeted, such as growth-resource imbalance (i.e. firms with few growth opportunities but with rich financing resource) (Palepu (1986)) and high managerial shareholding (Song and Walkling (1993)). We make cross-sectional analysis based on these measures and find that the rival abnormal returns are positively related to predicted probability of being taken over, supporting the "takeover probability" hypothesis. Particularly, rival firms with lower growth, less financial constraint (lower leverage) and higher management ownership experience more negative stock market reactions upon the passage of an ATP proposal.

The heterogeneity in spillover effect associated with leverage is again inconsistent with the "competition effect" hypothesis. Competition theory posits that firms respond to intensified competitive position of their rival firms and associated predation risk on the basis of strategic supplements or strategic substitutes. If they compete as strategic supplements through improving their own capital deployment, productivity efficiency and alleviating agency problem, the negative spillover impact from competitors will be moderated. However, rivals are less likely to respond in such active way if they are financially constrained (Benoit, (1984); Bolton and Scharfstein, (1990)). Previous literature show that competition risk concentrate in financially constraint firms (HSU, Reed and Rocholl (2010); Valta (2012)). Therefore, "competition effect" hypothesis predicts a more evident spillover impact on rival firms with higher leverage, which is contrary to our finding. Overall, cross-sectional variations in rivals' abnormal returns suggest that removing ATPs insulate peers' management from acquisition and monitoring by diverting takeover pressure away, especially from those that are well disciplined before.

We next examine whether the spillover effect differ across rivals' relative level of takeover defenses compared with the firms voting to pass an ATP proposal. Firms with less takeover protection are more likely to receive takeover bids. To the extent that industry rival firms are fungible takeover targets, their likelihood of takeover gain an additional components if the peer firms are protected by more ATPs. Consistent with this view, John and Kadyrzhanova (2010) find that the positive abnormal returns on industry peers of takeover targets around acquisition documented by (Song and Walkling (2000)) concentrate on relatively unprotected rivals. Therefore, passing ATP proposals shift takeover pressure from peer firms and thus generate a negative spillover effect, particularly on peer firms with relatively less ATPs than them before the shareholder meeting.

Overall, the results suggest that when the firm pass a proposal to remove ATPs, industry peer firms earn significantly negative returns around shareholder meeting. The negative spillover effect is more pronounced for firms in less concentrated industry, which is inconsistent with "competition effect" hypothesis but consistent with "takeover probability" hypothesis. Moreover, the spillover effect of removing ATPs are stronger in rival firms with high predicted probability and with relatively lower antitakeover defenses than the voting firms. These results support our argument that while removing ATPs increase takeover vulnerability of the firm itself, it reduces the takeover likelihood of peer firms, especially those are more likely to receive takeover bids and less protected by ATPs compared with voting firm prior to the shareholder meetings.

Our study contributes to the literature in at least three important ways. First, our study contributes to the ATP literature by introducing spillover effect. A majority of prior literature study the ATPs at firm level. They focus on the impact of ATPs on equity value

(e.g., Gompers, Ishii, and Metrick, 2003; Masulis, Wang, and Xie, 2007; Bebchuk, Cohen, and Ferrell, 2009; Cuñat, Gine, and Guadalupe, 2012; Cohen and Wang, 2013), acquisition performance (Masulis, Wang and Xie (2007); Sokolyk (2011)), takeover deterrence (Cuñat, Giné and Guadalupe (2016); Karpoff, Schonlau and Wehrly (2017)), innovation (Chemmanur and Tian (2018)). These studies provide evidence that ATPs insulate management from external corporate governance and exacerbate agency problem. However, the adoption of ATPs alleviate manager short-termism when firm invest into long-term projects or innovation. The studies about the impact of ATPs on debtholders focus on default risk accompanied by takeover and conclude that debtholder charge low costs on firms entrenched by ATPs (Chava, Livdan and Purnanandam (2009); Cremers, Nair and Wei (2007); Klock, Mansi and Maxwell (2005); Liu and Wu (2016)). Others investigate the impact of ATPs on stakeholder and show that ATPs help bond firms' explicit and implicit commitments to their stakeholders (Johnson, Karpoff and Yi (2015)). A few papers look at the how the impact of ATPs interact with product market competition. For example, Giroud and Mueller (2011) find that competitors reduce managerial slack and hence attenuate the agency costs of bad governance. Kadyrzhanova and Rhodes-Kropf (2011) document a stronger impact of ATPs in delaying takeover bids and increasing takeover premium in more concentrated industry where fungible takeover targets are scarce. Some also study how the impact of ATPs interact with peer firms' antitakeover policies and conclude that the impact of ATPs on takeover likelihood and agency costs depend on corporate governance quality of their peer firms (John and Kadyrzhanova (2008); John and Kadyrzhanova (2010)). However, no study has examined the impact of ATPs above firm boundary. We fill in this gap by investigating the rivals' stock market response to passage

of proposals suggesting to remove ATPs. Using the RDD to address endogeneity problem, we can interpret our spillover effect as a causal impact.

Our paper is also related to a large body of literature investigating how the behavior and characteristics of a firm affect the other firms in the same industry. For example, Leary and Roberts (2014) show that the corporate capital structure of peer firms are more important determinants of a firms' capital structure than factors previously identified. Hoberg, Phillips and Prabhala (2014) document a relation between competition threat and firms' dividend and cash holding decisions. The investment decision also depend on industry peer firms (Dessaint, Foucault, Frésard and Matray (2016); Foucault and Fresard (2014)). Repurchase behavior of one firm incurs negative stock market response and a wave of mimicking behavior in peer firms (Massa, Rehman and Vermaelen (2007)). There is also a negative stock market response and subsequent adoption of CSR commitment in peer firms after the firm pass a shareholder proposal to improve CSR (Cao, Liang and Zhan (2018)). Important events in the firm, such as IPO (HSU, Reed and Rocholl (2010)), bankruptcy (Lang and Stulz (1992)) and shareholder activism (Aslan and Kumar (2016); Ferri and Sandino (2009); Gantchev, Gredil and Jotikasthira (2016)), may also generate spillover impact on industry peers by reshaping product market competition structure. Despite that corporate governance is an important component of corporate policies and product market competition, there has not been literature on the spillover effects of it. We extend this line of literature by documenting a significantly negative spillover effect generated by the efforts of improving corporate governance and identify the underlying mechanism through which it works.

Finally, we contribute to literature on interaction between industry peers on the

market for corporate control. Extant papers show that acquisition announcements incur positive abnormal returns on rivals (Eckbo (1983); Eckbo (1985); Fee and Thomas (2004); Shahrur (2005)). They develop various hypotheses to explore source of this spillover effect. The results support the view of "efficiency gain from synergy" and "buy power as oppose to supplier", but are inconsistent with "collusion view". Moreover, Song and Walkling (2000) find that rival firms earn positive abnormal returns around acquisition announcement no matter the acquisitions are horizontal or non-horizontal, successful or unsuccessful. Studies above are based on the occurrence of acquisition activities. We supplement this scope of literature by showing that spillover in the takeover market could occur even in the absence of an acquisition. As long as there is a variation in relative antitakeover protection power among peer firms, investors revise valuation of their holdings in expectation of a change in predicted takeover possibility.

The paper is organized as follows. In Section I, we develop our hypothesis and review prior literature. In Section II, we describe our data and present the characteristics of voting firms and non-voting peers. Section III discusses the RDD approach as our identification strategy. In Section VI, we examine how passing governance proposals that lower ATPs affect the industry peer firms and reports cross-sectional analysis results based on various measures of industry concentration, predicted acquisition probability and relative antitakeover defenses. Section V summarizes and concludes.

I. Main Hypothesis and Literature Review

Antitakeover provisions reduce the likelihood of one firm receiving takeover bids through imposing a delay on completion of bids and/or increasing acquisition costs

(Bebchuk, Coates IV and Subramanian (2002); Kadyrzhanova and Rhodes-Kropf (2011); Karpoff, Schonlau and Wehrly (2017)). For example, the "golden parachute" provision requires to compensate management upon a change in corporate control, and the classified board makes it difficult to replace board members completely within a short time period after merger. Since the management of firms with strong takeover protections are insulated from discipline of external market for corporate control, the shareholder-manager agency problem, such as risk-taking incentives, manager shirking and empire building is intensified (Karpoff and Malatesta, (1989); Bertrand and Mullainathan, (2003); Lel and Miller, (2015)). Removal of ATPs leads to an increase in the likelihood of receiving takeover bids. Cuñat, Gine and Guadalupe (2017) show that the passage of proposals to remove ATPs increase a firm's takeover probability by 4.5%. Karpoff, Schonlau, and Wehrly (2016) also find that the G-index and E-index (Bebchuk, Cohen and Ferrell (2009)) are negatively associated with a firm's takeover likelihood. To the extent that firms are more exposed to takeover market and external monitoring, fewer antitakeover defenses are often related to higher firm value and better operating performance (Bebchuk, Cohen and Ferrell (2009); Core, Guay and Rusticus (2006); Cremers and Ferrell (2014); Danielson and Karpoff (2006); Gompers, Ishii and Metrick (2003)).

Extensive literature investigate the sources of the improved performance associated with good corporate governance. Cuñat, Gine and Guadalupe (2012) find an increase in Tobin's q and returns on assets but decrease in R&D and acquisition expenditure within three years after passing a proposal to remove ATPs. Despite the lower investment expenditure, firms with fewer antitakeover defenses have higher investment efficiency. Masulis, Wang and Xie (2007) find a negative relation between ATPs and firms' acquisition

returns as bidders. Fewer ATPs are also related to more efficient resource allocation among divisions within an internal capital market (Duchin and Sosyura (2013)), higher labor productivity, lower input costs and less value-destroying acquisitions (Giroud and Mueller (2011)). These findings support the view that "antitakeover provisions cause higher agency costs through some combination of inefficient investment, reduced operational efficiency, or self-dealing" (Gompers, Ishii and Metrick (2003)). Therefore, firms that remove ATPs could gain competition advantage through improvements in investment efficiency, capital redeployment and alleviated agency costs, exerting strong competition pressure on peers in the same industry. Investors of rival firms anticipate the competition effect caused by removal of ATPs and will react negatively.

Industry peers do not only interact in product competition market but also in the acquisition market. Acquisition activities often cluster within industry (Mitchell and Mulherin (1996)). Extensive literature document positive abnormal returns on rival firms around horizontal merger announcements in the industry (Eckbo (1983, 1985); Fee and Thomas (2004); Shahrur (2005)). Industry peers gain from horizontal takeovers due to increasing buying power as oppose to suppliers and efficiency gain from synergies. Furthermore, Song and Walkling (2000) find significantly positive abnormal returns on peer firms around bidding announcement regardless of the form of merger (i.e., horizontal or non-horizontal) or outcome (i.e., complete or not). They argue that an initial unexpected announcement in one industry reveal potential gains (e.g. market misevaluation, potential synergies, growth opportunities, and/or agency problem) that is pervasive in the industry and thus lead to a upward revision of rival firms' value and takeover probability. Moreover, if potential acquirers fail the first bidding, they may select other firms in the same industry

as alternative targets (Fee and Thomas (2004)). Due to the increasing probability that the rivals will be acquisition targets later, there is positive stock market reaction among peer firms. Overall, these findings suggest that peers in the same industry could be alternative acquisition targets for potential bidders. Consistent with this view, Servaes and Tamayo (2013) find that in fear of being the next target in the future, managers take actions to reduce agency costs or adopt antitakeover provisions when their peer firms receive takeover bids. To the extent that peer firms are fungible targets in the takeover market, the likelihood of being a takeover target does not only depend on the ATPs of the firm itself, but also the antitakeover protection of its peer firms. John and Kadyrzhanova (2010) find that the impact of adopting classified board in deterring takeover bids and deal completion upon a bid is weakest when the incidence of classified board is low among peer firms, which could be cheaper alternative targets in takeover market. Also, since better peer governance divert away takeover discipline power, the agency costs of ATPs is exacerbated when peer firms in general have low ATPs (John and Kadyrzhanova (2008)). Therefore, removing the ATPs reduces the takeover probability of rivals and thus generate a negative spillover effect by providing a more attractive substituting target for potential bidders in the takeover market.

II. Data and Descriptive Statistics

We begin with voting data on shareholder-sponsored proposals at annual shareholder meetings related to removing ATPs during 2003-2012.[3] We retrieved information on meeting date, sponsor, item on agenda and vote outcome from Voting

[3] Antitakeover provisions are components of G-Index developed by Gompers, Ishii and Metrick (2003). We focus on shareholder proposal only since management-sponsored proposals may be strategically withdrawn management-sponsored proposals and thereby manipulate the vote distribution around the discontinuity.

Analytics database in Institutional Shareholder Services (ISS). We exclude firms in financial (SIC codes between 6000 and 6999) and utility (SIC codes between 4000-4999) industries. We also require the proposals have a 50% majority threshold and non-missing information of item description and vote outcome. These procedures result in a sample of 883 ATP proposals submitted to vote at 827 shareholder meetings held by 349 firms. To examine how the stock price of industry rivals react to the vote outcome of ATP proposals in voting firms, we define industry peers as firms with the same historical four-digit SIC codes on Compustat. Following prior studies on spillover effect (Aslan and Kumar (2016); Massa, Rehman and Vermaelen (2007)), we restrict the rival sample to firms that pass zero ATP proposal in the three year prior to and one year after the focal meeting to exclude confounding effect from their own corporate policy change. We also require rival firms to have stock return data in CRSP. These filtering procedures produce a sample of 16,502 non-voting peers. Panel A of Table I displays the distribution of proposals and associated rival firms by meeting year. In general there is a decrease trend in the number of ATP proposal, which is consistent with Cuñat, Gine and Guadalupe ((2017)). Panel B of Table I shows the distribution by Fama-French 12 industries. The ATP proposals are most frequently submitted to vote in wholesale, retail, and some services industries (18.57%), others (15.53%) and Manufacturing (14.04%).

Panel A of Table II presents the frequency distribution of our sample shareholder-sponsored proposals and their approval rates by shareholder meeting year. It is shown that 57.19% ATP proposals are passed at the shareholder meeting. The average fraction of votes supporting the proposal to remove ATPs is 55%. Panel B of Table II presents the distribution of approved proposals by proposal type. Proposals to repeal classified board and eliminate

the poison pills are the most frequent type, accounting for 30.23% and 16.65% of all ATP proposals respectively. On average, the approval rate is 57.19%, and fraction of votes favoring the proposal 55%. Among all types of proposal, those proposing to declassify board receive the highest approval rate (86.52%).

For the 827 sample voting firms and associated 16,502 non-voting peers, we obtain firm fundamental data from Compustat, management compensation data from Execucomp and G-Index from Institutional Shareholder Services (ISS) database. In Table III, we report the descriptive statistics for voting firms and non-voting peers.[4] The results show that on average voting firms are significantly larger (*Market value*), more profitable (*ROA*) and more highly-levered (*Leverage*). The mean value of book-to-market ratio for voting firms is slightly larger than that of non-voting peers while the growth rate (*Sales growth*) smaller, but the difference is statistically insignificant. These differences are a consequence of voting-firm sample selection bias towards S&P 1500 firms covered by voting analytics database of *ISS*. Finally, both the mean and median of *Managerial ownership* and *G-Index* of voting firms are significantly higher than non-voting peers. This indicates that the management of firms submitting proposals to remove ATPs are more entrenched by managerial equity holding and takover protections.

III. Identification Strategy

A. Methodology

[4] Since the Execucomp and ISS dataset compile data of S&P 1500 firms only, the number of observations for variables *Managerial ownership* and *G-Index* are much smaller than that for variables calculated using Compustat data. In addition, ISS database provides *G-Index* until 2006. Following Karpoff, Schonlau and Wehrly (2017), we extend the sample period to 2008 by assuming that G-Index reported in 2006 are constant over the next two years.

Following Lee and Lemieux (2010), we approximate the continuous relationship between spillover effects and voting shares when performing the RDD analysis by controlling for polynomials of voting shares on both sides of the majority threshold. This method allows us to use data far away from the cutoff point. In our setting of shareholder proposal vote, multiple ATP proposals may be submitted to vote at one shareholder meeting. Cuñat, Gine, and Guadalupe (2012) and Flammer (2015) revise RDD to address this issue. Specifically, they aggregate the vote outcome (i.e., treatment variable indicating whether the proposal is passed as well as the polynomials in vote shares) of different proposals in the same meeting by assuming that the treatment effect of each proposal at one shareholder meeting is the same. We follow their way to estimate average causal effect on a proposal, using the specification below

$$y_{f,t} = \alpha + \beta \sum_{k=1}^{N} Pass_{f,t}^{K} + P_l\left(\sum_{k=1}^{N} v_{f,t}^{K}, \gamma_l^{\tau}\right) + P_r\left(\sum_{k=1}^{N} v_{f,t}^{K}, \gamma_r^{\tau}\right) + \rho_t \qquad (1)$$

where $y_{f,t}$ is the portfolio (individual) abnormal returns on non-voting peers around shareholder meeting date. $Pass_{f,t}^{K}$ is an indicator that takes the value of one if the proposal is approved, and zero otherwise. $v_{f,t}$ is the difference between a fraction of votes in favor and the majority threshold, $P_l\left(v_{f,t}, \gamma_l^{\tau}\right)$ and $P_r\left(v_{f,t}, \gamma_r^{\tau}\right)$, respectively, represent polynomials of voting shares on the left-hand and right-hand sides of the threshold, and ρ_t represents year fixed effects.[5] The coefficient β estimates the average causal effect of passing an ATP proposal on peer firms. We report robust standard errors at industry level to address the possibility of error terms correlated across industry (Aslan and Kumar (2016)).

[5]Since our dependent variables, competitors' abnormal returns around shareholder meeting, are one-period observations, we drop the dynamic structure of the RDD specification developed by Cunat et al. (2012).

B. Identification Assumption

RDD assumes the passage or rejection of APT proposals around the majority threshold quasi-random. To test this assumption, we make two standard tests. First, the voting distribution of shareholder votes should be smooth around the majority threshold, otherwise the treatment variable (the percentage of favoring votes) may be manipulated, violating the randomness assumption. Figure 1 provides visual evidence of smoothness of votes around the majority threshold. The left graph shows the histogram of the distribution of vote shares for shareholder-sponsored proposals to remove ATP across 40 equally-spaced bins. The *x*-axis is the percentage of votes in favor for the proposals. It shows no sign of any discontinuity around the majority threshold, which helps mitigate the concern that vote outcomes are precisely manipulated. The right graph of Figure 1 plots the McCrary (2008) test of the distribution of vote shares of the proposals. The *x*-axis is the percentage of votes in favor for the ATP proposals. The small circles depict the density estimates and the solid line represents the fitted density function of vote shares with a 95% confidence interval around the fitted line. We find no evidence of discontinuity around the cutoff point. The discontinuity estimate of the density (Wald *t*-statistics = -1.91) fails to reject the null hypothesis that the density function is continuous at the threshold.

Next we test whether the passage of close-call ATP proposals is unrelated to peer-firm characteristics at the shareholder meeting. If proposals are randomly assigned around majority threshold, we should observe no systematic difference in the competitors' characteristics of firms falling on either side around the threshold prior to shareholder

meetings.[6] To justify this assumption, we estimate *Eq*. (1) that use as the dependent variables abnormal returns (firm characteristics) of non-voting peers prior to the shareholder meeting. Table IV reports the estimated pre-existing differences in abnormal returns (Panel A) and firm characteristics (Panel B) between peers of voting firms that marginally pass proposals to remove antitakeover provisions (*peers of passing firms*) and those that marginally reject the proposals (*peers of rejecting firms).* Column (1) in Panel A and columns (1) and (3) in Panel B present estimates without controlling for polynomials (i.e., estimating the average pre-differences in abnormal returns and firm characteristics between *peers of passing firms* and *peers of rejecting firms* respectively) and column (2) in Panel A and columns (2) and (4) in Panel B report estimates controlling for polynomials of order 4 (i.e., estimating the pre-differences at the discontinuity).

In column (1) of Panel A, we find significantly more negative abnormal returns on *peers of passing firms* than *peers of rejecting firms* over -7 to -2 days prior to the shareholder meetings when polynomials are not controlled for. However, when we control for polynomials in column (2), abnormal returns on competitors prior to the shareholder meetings are insignificant around the majority threshold. In Column (1) and (2) (Column (3) and (4)) of Panel B, we show the pre-difference in *G-Index* (change in *G-Index*) between *peers of passing firms* and *peers of rejecting firms* one year prior to the shareholder meetings, with and without controlling for polynomials. We find significantly lower *G-Index* in the *peers of passing firms* than the *peers of rejecting firms* over one year prior to shareholder meeting. This may suggest that firms are more likely to pass an ATP proposals if the average *G-Index* of their industry peers is lower. However, there is no significant pre-difference in

[6] Cunat et al. (2012) have shown that there is no pre-existing difference in firm characteristics of voting firms that fall on either side around the threshold.

G-Index when we control for polynomials and also none in change of *G-Index*, regardless of controlling for polynomials or not. The evidence above show that peers around the majority threshold are indifferent in the dependent variables we study, indicating a causal impact from the passage of ATP proposals on these variables.

Columns (1) and (2) (columns (3) and (4)) of Panel B in Table IV report the results of pre-difference in the levels of firm characteristics one year prior to the shareholder meeting, $year_{t-1}$ (changes in firm characteristics from $year_{t-2}$ to $year_{t-1}$) between *peers of passing firms* and *peers of rejecting firms*. When polynomials are controlled for, we find no significant pre-difference in both the levels of and changes in firm characteristics between the two groups of peer firms except for the level of *ROA*.[7] Overall, the results from diagnostic tests confirm that our close-call proposals are randomly assigned around majority threshold and unrelated to characteristics of competitors, justifying the use of the RDD approach in our analysis.

IV. The Spillover Impact of Passing ATP proposals

In this section, we test whether the passage of an ATP proposal cause spillover impact on industry peers' stock market value and antitakeover defense selection in the year subsequent to shareholder meetings.

A. Abnormal Returns on Non-voting Industry Peers

We first study the spillover effect in corporate governance by studying peers' stock market reactions to the passage of ATP proposals. To the extent that passing an ATP

[7] Flammer (2015) suggests that two groups of firms drawn from the same distribution can show significant differences in a few variables if various firm characteristics are compared.

proposal improve the competition position of voting firm in the industry and divert the disciplinary takeover pressure from competitors, we expect the investors of non-voting peers react negatively to the passage of ATP proposals.

Following Cuñat, Gine and Guadalupe (2012), we first estimate the difference in rival abnormal returns between proposals falling on the left-hand side (reject the proposal) and right-hand side (pass the proposal) for increasingly narrow intervals around 50% majority threshold on the shareholder meeting date (*AR(0)*). This mean difference are estimated using a local linear regression as specified in equation below

$$y_{f,t} = \alpha + \beta * Pass + +\rho_t + u_{f,t}, \quad (2)$$

where $y_{f,t}$ indicates the portfolio (individual) rival abnormal return, and $Pass$ indicating whether the proposal is passed or rejected. We control for year fixed effect and report robust standard errors clustered at industry level. The estimates, β, based on various local samples, as well as full sample, are presented in Table V. Panel A presents the results using portfolio of rival abnormal returns and Panel B the individual rival abnormal returns as dependent variables. Column (1) report the estimated difference from full sample. We find no significant difference between the rival abnormal return between all proposals that are passed and those that are rejected. The lack of difference is mainly driven by proposals that are far away from majority threshold (with fraction of favoring votes smaller than 40% or larger than 60%), as shown in Column (2). This is consistent with the argument that proposals that are passed or rejected by a large margin are expected and investors of rival firms expect and incorporate this into stock price prior to shareholder meetings. Column (3) reports estimate from subsample of proposals that fall into the -10% to +10% band around the cutoff point (50%). Here we begin to see a more negative estimated difference between

peers of passing firms and *peers of rejecting firms* (-0.18%) with a smaller p-value. When we restrict sample to proposals within (-5%, +5%) band around majority threshold, the estimate is more negative (-0.58%) and significant at 1% level. The rival abnormal return of passing an ATP proposal decrease to -1.07% as we further narrow down the local band to (-2.5, +2.5%), even the number of observations drops.[8] Column (6) estimate the difference using full sample and introducing fourth-order polynomials as in *Eq* (1), but do not sum the vote outcome of multiple proposals at the same shareholder meeting. We find a -1.16% abnormal returns on rival firms. In Panel B, local estimates on local samples that gradually narrower down show similar patterns in magnitude and significance. By focusing on sample around majority threshold, we find that passing an ATP proposal cause negative spillover effect on rival firms' stock.

The regressions in Table V do not account for the possibility that there are more than on ATP proposals submitted to vote at one shareholder meeting. To incorporate this characteristic, we estimate spillover effect using global polynomial RDD specification in *Eq* (1). The results are presented in Table VI We report the impact of passing an ATP proposal on competitors' abnormal returns on the shareholder meeting date (*t*), cumulative abnormal returns over day *t* and *t+1,* and cumulative abnormal returns over day *t-1* to *t+1*. Measured in the same industry over the same time period, the competitor stock returns are likely to be correlated. To address this concern, except for individual firm stock market reaction (in Column (4)-(5)), we also examine the abnormal returns on the portfolio of peer

[8] Since the selection of local band width is arbitrary, the discontinuity estimates around majority threshold do not have to be significant across all local samples that we examined. The magnitude of estimates and statistical significance we got gradually increase when we narrow down the local band width and sample size. These results provide evidence of a discontinuity around 50% cutoff point. Cunat et al. (2012) report similar local estimates pattern in their study of firm abnormal return to passage of ATP proposal.

firms (in Column (1)-(3)). Specifically, we follow Lang and Stulz (1992) to pool all competitors for each shareholder meeting into one portfolio and treat abnormal returns of this portfolio as a single observation.

We find that on average competitors experience significantly negative stock market reaction to the passage of an ATP proposal over the day *t-1* to *t+1* period, at both individual (-1.97%) and portfolio level (-1.56%). While it is insignificant on the shareholder meeting date, most of the negative spillover effect occurs over the meeting date and one day after (-1.50% at portfolio level and -1.45% at individual level). This result is not surprising since the vote outcome of close-call proposals are not publicly known until the shareholder meeting date and it takes some time for the investors of competitors to learn the news.

Overall, we find a significantly negative stock price reactions in peers of firms that marginally pass an ATP proposal relative to the peers of those that marginally reject one.[9]

B. Cross-Sectional Analysis of Peer Abnormal Returns

In last section we find a negative spillover effect of passing an ATP proposal. However, this finding may be explained by two different mechanisms. In this section, we make various cross-sectional analysis based on industry organization, industry peers' characteristics and the relative corporate governance between the voting firms and non-voting peers to identify the channel through which the spillover effect generate.

B.1 Industry Concentration

Our "competition effect" hypothesis suggests that the negative spillover effect is

[9] In unreported tests, we use alternative polynomial orders and abnormal returns. The results are consistent with what we get here.

more pronounced for more concentrated industries. In industries with imperfect competition, firms in the same industry compete as strategic substitutes (i.e. the improvement in one firm's competition position erode rivals' market share). Moreover, the firm with competitive advantage are able to prey on competitors, further weakening them in the future. Prior studies on spillover effect consistently find stronger competitive effect in less competitive industries (Aslan and Kumar (2016); HSU, Reed and Rocholl (2010); Valta (2012)). In contrast, the "takeover probability" hypothesis has opposite implications. To the extent that takeover likelihood is low in concentrated industries due to the antitrust concern (Song and Walkling (2000)), the effect of diverting takeover pressure due to peers' passage of ATP proposals should be stronger in more competitive industries. To differentiate the two channels, we construct the Herfindahl-Hirschman Index (*HHI*) as the sum of squared industry market shares using sales data for all firms in the same industry based on four-digit historical SIC code from Compustat. We then assign the competitors into high (low) concentrated industries if its *HHI* is above (below) the sample median and run regressions on different groups respectively. Table VI reports the estimates from RDD regression in *Eq (1)* using *CAR(0,+1)* and *CAR(-1,+1)* as dependent variable. Column (1) and (3) report the coefficients on Pass for firms in high-concentrated industry, while Column (2) and (4) report those for firms in more competitive industries (low concentration).

Panel A of Table VI shows that cumulative abnormal returns on rivals over one day prior to and one day after the shareholder are significantly more negative in response to the passage of an ATP proposal if the firm is in less concentrated industry. It is contrary to the "competition effect" hypothesis but consistent with "takeover probability" hypothesis,

which predicts stronger spillover effect of passing ATP proposals in more competitive industries.

B.2 Takeover Probability

The "takeover probability" hypothesis conjectures that competitors experienced more negative stock market reaction to the passage of ATP proposals since they are more exposed to takeover vulnerability at the time of shareholder meeting. The jump in likelihood of removing takeover defenses after passing ATP proposals reduces the takeover vulnerability of peer firms with low takeover protection ex ante. However, the diversion effect is weaker for competitors that are less likely to receive takeover bids relative to their peers.

To shed more light on the relation between peers' abnormal returns and their takeover market exposure, we divide the competitors into two groups based on the industry median of measures associated with takeover likelihood and then examine whether the impact of passing an ATP proposal are different between groups. Following Song and Walkling (2000), we proxy firms' probability of being acquired by leverage, growth rate and managerial ownership. Prior literature suggests that firms with low growth and rich financing resources tend to be attractive acquisition targets. Consistent with this growth-mismatch theory, Palepu (1986) finds significantly higher probability of being target of hostile takeover for firms with lower growth (fewer grow opportunities) and lower leverage (higher debt capacity). We measure growth rate as the average growth rate over three fiscal years prior to shareholder meeting and leverage the sum of long- and short-term debt divided by total assets. The results are shown in Panel B of Table VI. For both cumulative

abnormal returns, we find significantly more negative coefficients on *Pass* for the group of low-levered peer firms, where financing resource may be scarce. The passage of ATP proposals on average induces -3.95% (-3.09%) of *CAR(-1,+1)* (*CAR(0,+1)*) and the estimates are statistically significant at 1% level. However, the coefficients on *Pass* are insignificant for the high-levered firms. This result also provides evidence contrary to "competition effect" hypothesis, which predict stronger spillover impact on financially constrained rival firms. With regards to cross-section based on rivals' growth opportunities, we find more significant and negative stock market reaction to passing an ATP proposal only for the group of competitors with low growth rate. One may also expect that managerial ownership is related to the likelihood of a disciplinary takeover bid due to two reasons. First, owning high equity ownership provides management strong incentives to maximize shareholder wealth. Second, high ownership by the management blocks takeover bids by increasing the fraction of shares that a potential bidder has to accumulate for taking control. However, the relation between managerial ownership and takeover probability should not be simple linear. When management own a small fraction of shares, potential acquirers are always willing to bid since the low takeover premium is less than his optimal pay. On the other hand, extremely concentrated (e.g. 50%) managerial ownership reduce the probability of takeover to zero. Only when the managerial ownership fall into a medium range does the increase in insider holding reduce the possibility of takeover at any given takeover premium.[10] We calculate the *Managerial ownership* as the fraction of equity shares owned by CEO. To capture the non-linear impact of it, we delete competitors with managerial ownership less than 5% or greater than 25%. Since the data source, *Execucomp*,

[10] See Stulz (1988) for more details about the curvilinear relation between insider ownership and takeover market discipline.

covers S&P1500 firms only, we observe significant reduction of sample size while adopting this measure. However, we consistently find result supporting "takeover probability" hypothesis. Specifically, the coefficients on *Pass* are more negative and significant for peers where CEO shareholding are below industry median.

B.3 Relative Corporate Governance

Next we examine whether the spillover impact of passing ATP proposals differ across peers with relatively better corporate governance than voting firms and those with worse one. Firms in the same industry are fungible takeover targets (John and Kadyrzhanova (2008); Kadyrzhanova and Rhodes-Kropf (2011)). Among a group of potential targets, the firm with fewer takeover defenses is preferred by bidders due to its weak bargaining power and acquisition costs. The removal of antitakeover provisions in voting firm results in increasing number of relatively cheap acquisition targets in the industry and thereby reducing the takeover pressure on peer firms. This diversion impact should be more pronounced for peers with fewer takeover defenses than the voting firm ex ante. To test this implication, we divide non-voting peers into high (low) relative *G-Index* group according to whether it has higher (lower or similar) *G-Index* score than the voting firm and run RDD regressions. Panel C of Table VI presents the result. Consistent with our prediction, there is more negative cumulative abnormal returns on peers with relatively low *G-Index* at the time of shareholder meeting. The negative coefficient on *Pass* is significant at 10% level when using *CAR(-1,+1)* as dependent variable, but coefficients of the high relative *G-Index* group are both insignificant.

V. Summary and Conclusion

Using a regression discontinuity design (RDD) that relies on locally exogenous variation generated by shareholder proposal votes, we examine the spillover effect of passing shareholder proposals to remove antitakeover provisions. The results show that passing an ATP proposal incurs negative abnormal returns on rival firms in the industry. This evidence shed light on spillover effects in corporate governance. Since peer firms interact in takeover market as well as product market, the ATPs variation of one firm must affect the others. We develop two hypotheses to identify channels of the negative spillover effect. The "competition effect" hypothesis indicates that improved corporate governance strengthen competition advantage as oppose to rivals. In contrast "takeover probability" hypothesis argues that takeover targets are fungible within industry. Therefore, removing ATPs reduces peer firms' exposure to takeover market and thereby entrenching peers' management. Our results of cross-sectional analysis are consistent with the second channel. Specifically, negative spillover effect of voting to pass ATP proposals is more evident in less concentrated industry. It is also stronger for peer firms with higher predicted takeover probability and weaker takeover protection than the voting firm. Overall, this paper suggests that variation in ATPs generate externalities on rival firms since industry peers are fungible takeover targets and thus their takeover probability depends not only upon ATPs of themselves but also those of their peers. This paper also suggests future research on whether the observed clustering of corporate governance (*G-Index*) (John and Kadyrzhanova (2008); Karpoff, Schonlau and Wehrly (2017)) is due to strategic interactions through mimicking among peer firms.

References

Aslan, H., and P. Kumar, 2016, The product market effects of hedge fund activism, *Journal of Financial Economics* 119, 226-248.

Cao, Jie, Hao Liang, and Xintong Zhan, 2018, Peer effects of corporate social responsibility.

Chava, Sudheer, Dmitry Livdan, and Amiyatosh Purnanandam, 2009, Do shareholder rights affect the cost of bank loans?, *Review of Financial Studies* 22, 2973-3004.

Chemmanur, Thomas J, and Xuan Tian, 2018, Do antitakeover provisions spur corporate innovation? A regression discontinuity analysis, *Journal of Financial and Quantitative Analysis* 1-32.

Cremers, K. J. Martijn, Vinay B. Nair, and Chenyang Wei, 2007, Governance mechanisms and bond prices, *Review of Financial Studies* 20, 1359-1388.

Cuñat, Vicente, Mireia Gine, and Maria Guadalupe, 2017, Price and probability: Decomposing the takeover effects of anti-takeover provisions.

Cuñat, Vicente, Mireia Giné, and Maria Guadalupe, 2016, Price and probability: Decomposing the takeover effects of anti-takeover provisions.

Dessaint, Olivier, Thierry Foucault, Laurent Frésard, and Adrien Matray, 2016, Ripple effects of noise on corporate investment.

Eckbo, B Espen, 1983, Horizontal mergers, collusion, and stockholder wealth, *Journal of financial Economics* 11, 241-273.

Eckbo, B Espen, 1985, Mergers and the market concentration doctrine: Evidence from the capital market, *Journal of Business* 325-349.

Fee, C Edward, and Shawn Thomas, 2004, Sources of gains in horizontal mergers: Evidence from customer, supplier, and rival firms, *Journal of Financial Economics* 74, 423-460.

Ferri, Fabrizio, and Tatiana Sandino, 2009, The impact of shareholder activism on financial reporting and compensation: The case of employee stock options expensing, *The Accounting Review* 84, 433-466.

Foucault, Thierry, and Laurent Fresard, 2014, Learning from peers' stock prices and corporate investment, *Journal of Financial Economics* 111, 554-577.

Gantchev, Nickolay, Oleg Gredil, and Chotibhak Jotikasthira, 2016, Governance under the gun: Spillover effects of hedge fund activism.

Gompers, Paul, Joy Ishii, and Andrew Metrick, 2003, Corporate governance and equity prices, *The quarterly journal of economics* 118, 107-156.

HSU, HUNG-CHIA, Adam V Reed, and Jörg Rocholl, 2010, The new game in town: Competitive effects of ipos, *The Journal of Finance* 65, 495-528.

John, Kose, and Dalida Kadyrzhanova, 2008, Relative governance, *New York University, mimeo*.

John, Kose, and Dalida Kadyrzhanova, 2010, Spillover effects in the market for corporate control, (Citeseer).

Johnson, William C, Jonathan M Karpoff, and Sangho Yi, 2015, The bonding hypothesis of takeover defenses: Evidence from ipo firms, Journal of Financial Economics 117, 307-332.

Kadyrzhanova, Dalida, and Matthew Rhodes-Kropf, 2011, Concentrating on governance, The Journal of Finance 66, 1649-1685.

Karpoff, Jonathan M, Robert J Schonlau, and Eric W Wehrly, 2017, Do takeover defense indices measure takeover deterrence?, The Review of Financial Studies 30, 2359-2412.

Klock, Mark S, Sattar A Mansi, and William F Maxwell, 2005, Does corporate governance matter to bondholders?, Journal of Financial and Quantitative Analysis 40, 693-719.

Lang, Larry HP, and RenéM Stulz, 1992, Contagion and competitive intra-industry effects of bankruptcy announcements: An empirical analysis, Journal of financial economics 32, 45-60.

Liu, Yukun, and Xi Wu, 2016, Internal corporate governance and cost of bank loans: Evidence from shareholder activism.

Massa, Massimo, Zahid Rehman, and Theo Vermaelen, 2007, Mimicking repurchases, Journal of Financial Economics 84, 624-666.

Masulis, Ronald W, Cong Wang, and Fei Xie, 2007, Corporate governance and acquirer returns, The Journal of Finance 62, 1851-1889.

Palepu, Krishna G, 1986, Predicting takeover targets: A methodological and empirical analysis, Journal of accounting and economics 8, 3-35.

Shahrur, Husayn, 2005, Industry structure and horizontal takeovers: Analysis of wealth effects on rivals, suppliers, and corporate customers, Journal of Financial Economics 76, 61-98.

Sokolyk, Tatyana, 2011, The effects of antitakeover provisions on acquisition targets, Journal of Corporate Finance 17, 612-627.

Song, Moon H, and Ralph A Walkling, 1993, The impact of managerial ownership on acquisition attempts and target shareholder wealth, Journal of Financial and Quantitative Analysis 28, 439-457.

Song, Moon H, and Ralph A Walkling, 2000, Abnormal returns to rivals of acquisition targets: A test of theacquisition probability hypothesis', Journal of Financial Economics 55, 143-171.

Valta, Philip, 2012, Competition and the cost of debt, Journal of Financial Economics 105, 661-682.

Appendix

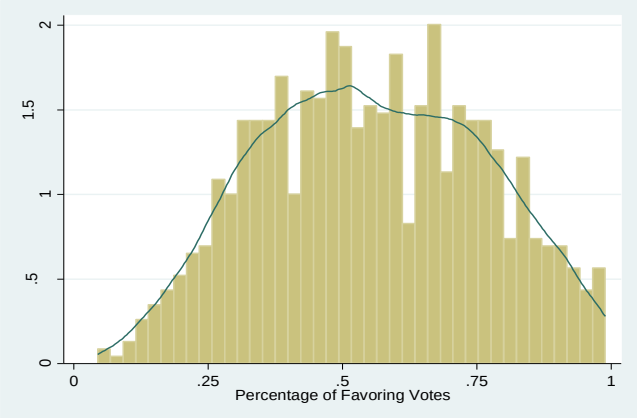
This appendix provides a detailed description of the construction of all the variables used in the tables.

Variable	Definition	Source
Market value ($ millions)	The market value of equity	Compustat
Book-to-market ratio	The book value of equity divided by market value of equity.	Compustat
Leverage	The sum of long-term and short-term debt divided by total assets.	Compustat
Sales growth	The average growth rate of sales over three fiscal years prior to shareholder meeting.	Compustat
ROA	Earnings before interest, taxes, depreciation, and amortization divided by the book value of assets at end of prior fiscal year.	Compustat
Herfindahl-Hirschman index	Sum of squared market shares of firms' sales at four-digit SIC industry level.	Compustat
CAR	CAR(*i*,*j*) the cumulative abnormal returns from day *i* to day *j*, where t = 0 is the shareholder meeting date. The abnormal returns is calculated as the difference as daily stock return minus the return on CRSP value weighted market index for that day.	CRSP
Manager ownership	The percentage of shares held by manager.	Execucomp
G-Index	The number of antitakeover provisions (Gompers, Ishii and Metrick (2003)) in place.	ISS
High relative G-Index	Dummy variable equal to one if non-voting peers has higher (or the same) G-Index than (as) voting firm, and zero otherwise.	ISS
Pass	The number of ATP-removal proposals that are passed at the shareholder meetings (in *Eq(1)*). Dummy variable equal to one if a proposal is passed at shareholder meeting, and zero otherwise (in *Eq(2)*).	ISS
$P_l\left(\sum_{k=1}^{N} v_{f,t}^{K}, \gamma_l^{\tau}\right)$	The sum of different polynomials of vote-for percentage of ATP-related proposals on the left-hand side of the 50% threshold.	ISS
$P_r\left(\sum_{k=1}^{N} v_{f,t}^{K}, \gamma_r^{\tau}\right)$	The sum of different polynomials of vote-for percentage of ATP-related proposals on the right-hand side of the 50% threshold.	ISS
Year fixed effect	Fixed effect for the calendar year of shareholder meeting.	

Figure 1

Distribution of Vote Shares for Shareholder-sponsored Proposals to Remove ATPs

The left figure presents the histogram of the distribution of vote shares for shareholder-sponsored proposals to remove antitakeover provisions (ATP) across 40 equally-spaced bins. The *x*-axis is the percentage of votes in favor for proposals to remove ATPs. The right figure plots the McCrary (2008) test of the distribution of vote shares of the proposals. The *x*-axis is the percentage of votes in favor for ATP proposals. The small circles depict the density estimates and the solid line represents the fitted density function of vote shares with a 95% confidence interval around the fitted line. The sample consists of 972 shareholder-sponsored proposals voted by 349 S&P 1500 firms covered in the Institutional Shareholder Services (ISS) Voting Analytics database from 2003 to 2012. We exclude firms that operate in utility (SIC codes between 4900 and 4999) and financial (SIC codes between 6000 and 6999) industries.



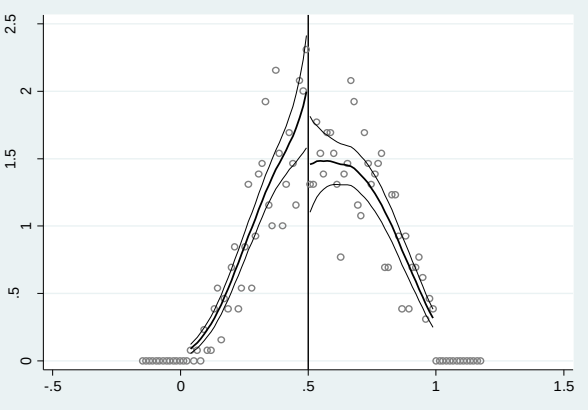


Table I

Distribution of Sample Shareholder Proposal and Non-voting Peers by Meeting Year and Industry

The table presents the distributions of sample firms by family control and shareholder meeting year (Panel A) and by Fama-French 12 industry (Panel B). The sample proposal consists of 827 annual shareholder meetings at which 883 shareholder proposals to remove the antitakeover provision are submitted to vote by 349 Russell 3000 firms covered in the Institutional Shareholder Services (ISS) Voting Analytics database from 2003 to 2012. We exclude firms that operate in utility (SIC codes between 4900 and 4999) and financial (SIC codes between 6000 and 6999) industries and those without non-voting peers from Compustat-CRSP merged database. Non-voting peers are defined as firms in the same four-digit SIC classification as voting firm but do not pass an ATP shareholder proposal in three year prior to and one year after the focal shareholder meeting date. 16,502 non-voting peers are associated with these shareholder meetings.

Panel A: Distribution of sample shareholder proposals and non-voting peers by year

	Shareholder proposals		Non-voting peers	
Year	Sample size	%	Sample size	%
2003	123	13.93	2,134	12.93
2004	89	10.08	1,287	7.8
2005	72	8.15	1,458	8.84
2006	69	7.81	2,155	13.06
2007	41	4.64	200	1.21
2008	89	10.08	1,884	11.42
2009	124	14.04	2,769	16.78
2010	104	11.78	2,334	14.14
2011	100	11.33	1,895	11.48
2012	72	8.15	386	2.34
Total	883	100	16,502	100

Panel B: Distribution of sample shareholder proposals and non-voting peers by industry

	Shareholder proposals		Non-voting peers	
Industry	Sample size	%	Sample size	%
Consumer Nondurables	61	6.91	243	1.47
Consumer Durables	49	5.55	265	1.61
Manufacturing	124	14.04	649	3.93
Energy	41	4.64	1,601	9.7
Chemicals and Allied Products	31	3.51	157	0.95
Business Equipment	120	13.59	4,756	28.82
Telephone and Television Transmission	63	7.13	807	4.89
Wholesale, Retail, and Some Services	164	18.57	1,242	7.53
Healthcare, Medical Equipment, and Drugs	93	10.53	5,641	34.18
Others	137	15.52	1,141	6.91
Total	883	100	16,502	100

Table II

Distribution of Approved Proposals by Meeting Year and Proposal Type

The table presents the distribution of the number of proposals to remove the antitakeover provision (ATP) at the shareholder meeting by meeting year from 2003 to 2012 (Panel A) and the distribution of shareholder proposals by proposal type (Panel B).

Panel A: Distribution of shareholder proposals to remove the ATP by meeting year

Meeting year	No. of approved proposals: A	No. of proposals: B	% of approved proposals: A/B	Average fraction of favoring votes
2003	82	123	66.67	0.57
2004	58	89	65.17	0.57
2005	44	72	61.11	0.55
2006	42	69	60.87	0.59
2007	19	41	46.34	0.52
2008	56	89	62.92	0.56
2009	65	124	52.42	0.54
2010	52	104	50.00	0.52
2011	43	100	43.00	0.51
2012	44	72	61.11	0.62
Total	505	883	57.19	0.55

Panel B: Distribution of shareholder proposals to remove the ATP by proposal type

Proposal type	No. of approved proposals: A	No. of proposals: B	% of approved proposals: A/B	Average fraction of favoring votes
Adopt anti-greenmail	1	1	100.00	0.55
Approve/amend terms of existing poison pill	5	10	50.00	0.59
Confidential voting	2	3	66.67	0.54
Restrict or eliminate change-in-control compensation for executives	42	72	58.33	0.51
Cumulative voting	6	130	4.62	0.34
Eliminate shareholder rights plan(poison pill)	1	2	50.00	0.51
Provide right to act by written consent	22	50	44.00	0.49
Redeem or vote poison pill	89	135	65.93	0.58
Reduce or eliminate supermajority provision	47	61	77.05	0.66
Remove antitakeover provisions & others	3	3	100.00	0.76
Repeal classified board	231	267	86.52	0.7
Shareholders may call special meeting	56	148	37.84	0.46
Vote on future golden parachutes	0	1	0.00	0.22
Total	505	883	57.19	0.55

Table III
Descriptive Statistics

This table presents descriptive statistics for the voting firms and associated non-voting peers. The sample proposal consists of 827 annual shareholder meetings at which shareholder proposals to remove the antitakeover provision are voted by 349 Russell 3000 firms covered in the Institutional Shareholder Services (ISS) Voting Analytics database from 2003 to 2012. We exclude firms that operate in utility (SIC codes between 4900 and 4999) and financial (SIC codes between 6000 and 6999) industries and those without non-voting peers from Compustat-CRSP merged database. Non-voting peers are defined as firms in the same four-digit SIC classification as voting firm but do not pass an ATP shareholder proposal in three year prior to and one year after the focal shareholder meeting date. 16,502 non-voting peers are associated with these shareholder meetings. All firm and CEO characteristics are measured as of the fiscal year-end immediately before the shareholder meeting date. Management holding data is retrieved from the Execucomp database. *Management ownership* is defined as percentage of shares held by CEO of the firm. *G-Index* is the number of antitakeover provisions in place (Gompers, Ishii and Metrick (2003)) compiled by Institutional Shareholder Services (ISS) corporate governance database from year 2003 to 2008. Appendix provides detailed descriptions of the variables. The numbers in the test-of-difference columns are *p*-values. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Voting firms			Non-voting peers			Test of Difference	
							Mean	Median
	N	Mean	Median	N	Mean	Median	*p*-value	*p*-value
Market value of equity ($million)	816	29,015.74	10,100.82	16,417	2,850.95	241.72	0.000***	0.000***
Book-to-market ratio	816	0.614	0.461	16,417	0.632	0.41	0.602	0.000***
ROA	816	0.137	0.135	16,408	-0.113	0.068	0.000***	0.000***
Leverage	816	0.271	0.257	16,358	0.212	0.094	0.017**	0.000***
Sales growth	816	0.067	0.051	10,426	3.645	0.089	0.545	0.000***
Managerial ownership	343	0.01	0.003	3,663	0.039	0.012	0.000***	0.000***
G-Index	369	9.989	10	2,246	9.013	9	0.000***	0.000***

Table IV

Pre-existing Differences in Non-voting Peers' Abnormal Returns and Firm Characteristics as a Function of Vote Outcomes

The table presents pre-existing differences in abnormal returns (Panel A) and firm characteristics (Panel B) between competitors of voting firms that marginally pass proposals to remove antitakeover provisions (ATPs) and those that marginally reject the proposals. Non-voting peers are defined as firms in the same four-digit SIC classification as voting firm but do not pass an ATP shareholder proposal in three year prior to and one year after the focal shareholder meeting date. The sample consists of 16,502 non-voting peers that are associated with 827 annual shareholder meetings at which shareholder proposals to remove the antitakeover provision are voted by 349 Russell 3000 firms covered in the Institutional Shareholder Services (ISS) Voting Analytics database from 2003 to 2012. Each panel reports the coefficients on *Pass* (the number of ATP-removal proposals that are passed at the shareholder meeting) estimated from the regressions with the following dependent variables. In Panel A, the dependent variable is the cumulative abnormal returns from seven days to two days before focal shareholder meetings. In Panel B, the dependent variables are the levels of firm characteristics measured one year prior to the focal shareholder meeting year, year *t*, (columns (1) and (2)) and the changes in firm characteristics from year $_{t-2}$ to year $_{t-1}$ (columns (3) and (4)). Columns (1) and (3) do not control for a polynomial in the vote-for share (i.e., estimating the average pre-existing differences in characteristics), while columns (2) and (4) control for the polynomial in the vote-for share of order four on each side of the threshold (i.e., estimating the effects at the discontinuity). We measure abnormal returns as daily stock return minus the return on CRSP value weighted market index for that day. All regressions control for year fixed effects. Appendix provides detailed descriptions of the variables. *P*-value are reported in parentheses and standard errors are adjusted for heteroskedasticity and clustered at industry level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Pre-existing differences in cumulative abnormal returns prior to the shareholder meetings

	Polynomials not controlled for	Polynomials controlled for
Dependent variable	(1)	(2)
CAR(-7,-2)	-0.879***	-1.246
	(0.00)	(0.12)

Panel B: Pre-existing differences in firm characteristics prior to the shareholder meetings

	Year $_{t-1}$		Change from year $_{t-2}$ to year $_{t-1}$	
	Polynomials not controlled for	Polynomials controlled for	Polynomials not controlled for	Polynomials controlled for
Dependent variable	(1)	(2)	(3)	(4)
Market value of	-291.490	700.790	-35.382**	-117.291
equity ($million)	(0.22)	(0.27)	(0.04)	(0.53)
Book-to-market	-0.026	-0.124	-0.006	-0.080
ratio	(0.32)	(0.12)	(0.60)	(0.26)
ROA	-0.026	-0.109*	0.007	-0.037
	(0.49)	(0.10)	(0.33)	(0.37)
Leverage	-0.011	0.021	-0.003*	-0.007
	(0.30)	(0.50)	(0.07)	(0.47)
G-Index	-0.346*	0.183	-0.003	-0.104
	(0.05)	(0.74)	(0.79)	(0.12)

Table V

Abnormal Returns of Non-voting Peers around the Majority Threshold (Proposal level)

This table presents regression estimates of the non-voting peers' abnormal return on the day of focal shareholder meeting (t=0) on dummy variable indicating the whether the proposals are passed or not (*Pass*). In Panel A, the dependent variable is abnormal returns of equal-weighted portfolio of peer firms on shareholder meeting date. In Panel B, the dependent variable is abnormal returns of individual peer firms on the shareholder meeting date. Non-voting peers are defined as firms in the same four-digit SIC classification as voting firm but do not pass an ATP shareholder proposal in three year prior to and one year after the focal shareholder meeting date. The sample consists of 18,879 non-voting peers that are associated with 883 shareholder proposals to remove the antitakeover provision by 349 Russell 3000 firms covered in the Institutional Shareholder Services (ISS) Voting Analytics database from 2003 to 2012. *Pass* is the dummy variable equal to one if a proposal is passed at shareholder meeting. Column (1) report the estimates from full sample. Column (2) restricts sample to observations with a vote-for share above 10 percent from threshold. Column (3) (Column(4) and (5)) restricts the sample to observations with a vote-for share within 10 (5, and 2.5) percent from threshold. Column (6) uses the full sample and control for fourth-order polynomials of vote-for share on each side of the threshold. We measure abnormal returns as daily stock return minus the return on CRSP value weighted market index for that day. All regressions control for year fixed effects. Appendix provides detailed descriptions of the variables. *P*-value are reported in parentheses and standard errors are adjusted for heteroskedasticity and clustered at industry level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: AR(0) of non-voting peers (equal-weighted portfolio return)

	(1)	(2)	(3)	(4)	(5)	(6)
	All	Non-close call	(-	(-	(-	Full
VARIABLES	votes	votes	10%,+10%)	5%,+5%)	2.5%,+2.5%)	model
Pass	-0.070	0.060	-0.181	-0.582*	-1.069**	-1.155**
	(0.63)	(0.74)	(0.44)	(0.09)	(0.04)	(0.03)
Number of observations	883	601	282	149	78	883
Adj. R^2	0.02	0.03	0.03	0.05	0.13	0.02

Panel B: AR(0) of non-voting peers (individual firm return)

	(1)	(2)	(3)	(4)	(5)	(6)
	All	Non-close call	(-	(-	(-	Full
VARIABLES	votes	votes	10%,+10%)	5%,+5%)	2.5%,+2.5%)	model
Pass	0.105	0.300	-0.322	-0.606	-1.031*	-1.186*
	(0.46)	(0.17)	(0.29)	(0.11)	(0.06)	(0.08)
Number of observations	18,879	13,367	5,512	2,778	1,369	18,879
Adj. R^2	0.00	0.00	0.00	0.01	0.03	0.01

Table VI

Effects of Passing Shareholder Proposals to Remove Antitakeover Provisions (ATPs) on Abnormal Returns of Non-voting Peers (Shareholder Meeting Level)

This table presents estimates of OLS regressions in which the dependent variable is the individual abnormal returns (Colomn(1)-(4)) and equal-weighted portfolio abnormal returns (Column (5)-(8)) of non-voting peers around shareholder meeting date. Non-voting peers are defined as firms in the same four-digit SIC classification as voting firm but do not pass an ATP shareholder proposal in three year prior to and one year after the focal shareholder meeting date. The sample consists of 16,502 non-voting peers (827 portfolios) that are associated with 827 annual shareholder meetings at which shareholder proposals to remove the antitakeover provision are voted by 349 Russell 3000 firms covered in the Institutional Shareholder Services (ISS) Voting Analytics database from 2003 to 2012. All columns control for fourth-order polynomials of vote-for share on each side of the threshold. *Pass* is the number of ATP-removal proposals that are passed at the shareholder meetings. We measure abnormal returns as daily stock return minus the return on CRSP value weighted market index for that day. All regressions control for year fixed effects. Appendix provides detailed descriptions of the variables. *P*-value are reported in parentheses and standard errors are adjusted for heteroskedasticity and clustered at industry level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Independent variable	Portfolio abnormal returns			Individual abnormal returns		
	AR(0)	CAR(0,+1)	CAR(-1,+1)	AR(0)	CAR(0,+1)	CAR(-1,+1)
	(1)	(2)	(3)	(4)	(5)	(6)
Pass	-0.538	-1.499*	-1.555*	-0.653	-1.447**	-1.969**
	(0.18)	(0.06)	(0.08)	(0.26)	(0.03)	(0.04)
Polynomial order	4	4	4	4	4	4
Year fixed effects	Y	Y	Y	Y	Y	Y
Number of observations	757	757	757	16,421	16,423	16,423
Adj. R^2	0.01	0.04	0.04	0.01	0.01	0.01

Table VII

Heterogeneous Effect of Passing Shareholder Proposals to Remove Antitakeover Provisions (ATPs) on Abnormal Returns of Non-voting Peers

The table presents estimates of OLS regressions in which the dependent variable is the individual abnormal returns non-voting peers around shareholder meeting date from day *t*=0 to *t*=1 (Colomn(1) and (2)) and from day *t*=-1 to *t*=1 (Colomn(3) and (4)). Non-voting peers are defined as firms in the same four-digit SIC classification as voting firm but do not pass an ATP shareholder proposal in three year prior to and one year after the focal shareholder meeting date. The sample consists of 16,502 non-voting peers that are associated with 827 annual shareholder meetings at which shareholder proposals to remove the antitakeover provision are voted by 349 Russell 3000 firms covered in the Institutional Shareholder Services (ISS) Voting Analytics database from 2003 to 2012. We measure abnormal returns as daily stock return minus the return on CRSP value weighted market index for that day. *Pass* is the number of ATP-removal proposals that are passed at the shareholder meetings. All the regressions control for the polynomials in the vote-for percentage of order four and year fixed effects. In Panel A and B, we classify the sample into high- and low-characteristic firms according to the sample median of each characteristic. We divide the sample by dummy variable indicating whether the *G-Index* of non-voting firm is higher than that of voting firms (Panel C). *G-Index* is the number of antitakeover provisions in place (Gompers, Ishii and Metrick (2003)) compiled by Institutional Shareholder Services (ISS) corporate governance database from year 2003 to 2008. Appendix provides detailed descriptions of the variables. *P*-value are reported in parentheses and standard errors are adjusted for heteroskedasticity and clustered at industry level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	CAR(0,+1)		CAR(-1,+1)			
	(1)	(2)	(3)	(4)	Test of equal coefficients between	
Variables	High-characteristic firms: A	Low-characteristic firms: B	High-characteristic firms: C	Low-characteristic firms: D	A and B	C and D
Panel A: Industry concentration (*Herfindahl-Hirschman index*)						
Pass	-0.762	-2.020	-1.751	-3.827***	(0.14)	(0.06)
	(0.21)	(0.13)	(0.18)	(0.00)		
Number of observations	5,560	5,495	5,560	5,495		
Adj. R^2	0.01	0.00	0.01	0.01		
Panel B: Takeover probability						
Leverage						
Pass	-0.737	-3.089***	-1.816	-3.946***	(0.03)	(0.09)
	(0.40)	(0.00)	(0.26)	(0.00)		
Number of observations	5,524	5,531	5,524	5,531		
Adj. R^2	0.01	0.01	0.01	0.01		
Growth						
Pass	-1.113	-1.899*	-1.251	-3.605**	(0.36)	(0.02)
	(0.13)	(0.08)	(0.22)	(0.01)		
Number of observations	5,203	5,216	5,203	5,216		
Adj. R^2	0.01	0.01	0.01	0.01		
Managerial ownership						
Pass	-0.833	-2.125*	-0.739	-2.480*	(0.22)	(0.19)
	(0.36)	(0.08)	(0.57)	(0.10)		
Number of observations	1,585	1,481	1,585	1,481		
Adj. R^2	0.01	0.03	0.01	0.03		
Panel C: Relative G-Index						
Pass	-0.875	-1.726	-0.804	-3.142*	(0.57)	(0.18)
	(0.55)	(0.29)	(0.68)	(0.07)		
Number of observations	733	1,352	733	1,352		
Adj. R^2	0.02	0.02	0.01	0.01		