ARE PASSIVE INSTITUTIONAL INVESTORS EFFECTIVE MONITORS?

NEW EVIDENCE FROM THE PRIVATE AND PUBLIC DEBT MARKETS

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Abstract

I exploit quasi-exogenous variation in passive ownership around the Russell 1000/2000 cutoff to explore the causal effects of passive ownership on debt covenants. I find that passive ownership causes a decrease in bond covenants, and in particular, reduced levels of (a) Investment, (b) Dividend, and (c) Subsequent financing restrictions. However, I observe weaker results for loan covenants, implying that loans, usually collateralized, are less sensitive to changes in passive ownership. The overall effect of passive ownership on bond covenants supports the argument that passive investors are effective monitors, and their interests are closely aligned with creditors', thereby leading to lowering monitoring costs for creditors and reduced dependence on tighter bond covenant restrictions.

Keywords: Institutional investor, corporate governance, debt contracting, agency cost of debt.

JEL classification codes: G23, G32, G34

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1 Introduction

While there has been a significant increase in the size of passive investment in recent years, several studies have tried to understand its implication on various areas of the financial market. Such areas include corporate governance and firm value (Appel et al. (2016); Schmidt and Fahlenbrach (2017)), firms' information and trading environment (Boone and White (2015)), index performance (Heath et al. (2022)), dividend payout policy (Crane et al. (2016)), firms' innovation activities (Yang (2021) ;Liu et al. (2019)), stock price (Chang et al. (2018)), and short selling (Schmidt and von Beschwitz (2022)). I contribute to this growing literature by examining the effect of passive ownership on debt covenants both in the private and public debt markets.

There has been disagreement in the literature on how passive investors may impact corporate governance (Boone and White (2015); Appel et al. (2016); Schmidt and Fahlenbrach (2017)). A related question is whether passive institutional investors have the incentive and capability to adequately monitor firms. Some argue that passive ownership, due to their index tracking strategy, diversified holdings, and inability to accumulate or exit positions, lacks the ability to monitor managers effectively. Others argue that passive institutions are motivated and able to monitor firms effectively for three major reasons. One, due to their buy-and-hold strategy, they are less willing to exit their positions in poorly performing stocks, they are therefore more motivated to monitor the firms they hold. Two, although passive owners might lack adequate resources required to monitor policy details of each firm in their diversified portfolio, they are able to use their wide range of knowledge in various industries to adequately monitor most important areas of the firm. Three, passive institutional investors have a fiduciary duty to vote their proxies in the best interest of shareholders, thus using their sizable ownership stake to influence the firm. (Appel et al. (2016)). Empirical studies investigating the effect of passive ownership on corporate governance and firm value have been equally divided in their findings. On one hand, Appel et al. (2016) find that passive mutual funds influence firms' governance choices, resulting in more independent directors, removal of takeover defenses, and more equal voting rights, increased voting, and improved long-term performance. On the other hand, Schmidt and Fahlenbrach (2017) find that increase in passive ownership leads to increases in CEO power, fewer new independent director appointments, negative announcement returns around independent directors' appointments, and worse mergers

and acquisitions, suggesting that passive ownership causes higher agency costs.

While it is plausible that passive institutional investors have an heterogenous effect on corporate governance, this study, examines which corporate governance effect dominates through the lens of debt contracting and seeks to answer this question from the perspective of creditor, who are concerned with corporate governance because it is one of the channels through which they are assured of getting a return on their investment.

Identifying the effect of passive ownership on debt covenants is not without challenges. This is due to two major reasons. One, unobservable firm characteristics such as firms' access to capital and investment opportunities could be driving the observed relationship between passive ownership and debt covenants. Two, there is a possibility of reverse causality, whereby high-risk firms, and hence with more strict debt covenant structure are preferred by passive ownership. To address these concerns, I exploit variation in passive mutual funds ownership that occurs around the cutoff points used in constructing two widely used U.S. market indexes- Russell 1000 and Russell 2000 indexes. Russell 1000 index comprises of the largest 1000 U.S stocks, and Russell 2000 index comprises of the next 2000 U.S stocks. Both indexes are value-weighted and are reconstituted yearly in May to adjust for changes in firm sizes. Our identification strategy is based on 2 major features of firms around the Russell 1000/2000 index cutoff. One, firms around (and close to) the cutoff points (smallest firms in Russell 1000 and largest firms in Russell 2000) are very similar in terms of size and other firm characteristics/factors, thus limiting differences in covenant structure among the 2 groups of firms. Two, due to the value-weighted nature of both indexes, largest firms in Russell 2000 have significantly higher index weight (and higher presence of passive ownership) relative to smallest firms in Russell 1000. This difference in passive ownership is exogenous to firm's covenant structure.

The result shows that passive institutional investors, who are long-term investors, are adequate monitors and they have interests that are well aligned with those of creditors, and as a result, there is less need for creditors to impose strict covenants on debt to firms with higher levels of passive institutional ownership. I find that passive ownership causes a decrease in bond covenants, and in particular, reduced levels of (a) Investment, (b) Dividend, and (c) Subsequent financing restrictions.

The main contribution of this study is in two folds. One, the study contributes to the literature

on factors determining covenant inclusion. Traditional studies on covenant inclusion have focused mainly on conflict of interest between a single class of shareholders and debtholders. Chava et al. (2010) introduced managerial factors as an extra dimension that influences the tension between shareholders and debtholders, and as a result, affects debt covenant inclusion. This paper extends this literature by showing heterogeneity in shareholder types and how a unique class of shareholders (passive IO) who are long-term investors without an exit strategy affects the debt covenant design. Two, the study contributes to the literature on conflict of interest between debtholders and passive IO. Studies on the possible conflict of interest between debtholders and institutional investors Wang and Zhang (2009) have paid much attention to the price term (i.e borrowing cost). However, they did not consider how much of the pricing of the increased (reduced) risk due to union is translated through the inclusion of stricter (or looser) debt covenant.

The closest paper to ours is Zhang and Zhou (2018). They also analyze how institutional investors impact bond covenants. They focus on blockholding institutional investors (defined as firms holding at least 5% of total market capitalization or sum of the 5 largest institutional investors). Overall, they find a positive and significant relationship between institutional blockholding and bond covenants. In their analyses for different institutional investor types, they also find that the result is only significant for active and transient blockholders but insignificant for passive or long-term blockholders. This implies that active institutional investors exacerbate agency conflicts between shareholders and bondholders, therefore causing an increase in the need for debt covenants. Overall, Zhang and Zhou (2018) therefore draw conclusion that appear to have a positive effect of institutional investors on covenants than ours. The results from Zhang and Zhou (2018) and ours are not inconsistent for several reasons. One, Zhang and Zhou (2018) focus on blockholders only. Blockholders hold significantly higher amount of shares which enables them not only to have a greater influence but also can make them behave differently in certain strategic situations which might be beneficial to them but not necessarily bondholders. [1]

Differences in methodology may also explain the differences in the findings. Zhang and Zhou (2018)

[1]For example, blockholders might advocate for specific business strategies such as pursuing mergers and acquisitions, but other stakeholders may not share the same risk appetite. Also, blockholders may resist implementing strong corporate governance measures, such as independent board members or improved transparency, as such measures might limit their influence or control over the company. They may also have preference for stock buybacks to increase value of their holding thereby increasing their control and leverage. Similarly, during change in control, they may also pursue terms that benefit them in terms of control at the expense of other stakeholders.

use (1) a panel regression for their main analyses, and (2) a smaller sample of firms that are just added to/ dropped from S&P index in a regression to control for endogeneity concerns [2]. While the former does not control for endogeneity, the latter does not separate indexing effect from potential confounds such as news, investor recognition associated with S&P 500 membership [3] (Chang et al. (2018)), or other significant changes to the firm.

2 Background Literature and Hypotheses Development

2.1 Background Literature on Institutional Ownership

The effect of overall institutional ownership on credit market is heterogenous in nature. This calls for the need to breakdown institutional investors into 3 categories (transient, quasi-indexer, and dedicated) and identify the two different channels through which institutional ownership can impact debt contracts -information asymmetry and corporate governance (Wang and Zhang (2009)). Wang and Zhang (2009) find that Transient IO, who are associated with information production (via frequent trading) but not corporate governance, are associated with lower credit spread, while Dedicated IO, who act oppositely, are associated with information asymmetry and higher credit spread.[4]

Passive IO demands greater firm transparency and enhanced public information production to minimize transaction and monitoring costs, thereby enhancing their monitoring role. (Boone and White (2015)). Boone and White (2015) examine the effect of passive IO on firms' information and trading environment and find that passive IO is positively associated with greater management disclosure, analyst following, and liquidity, resulting in lower information asymmetry which facilitates monitoring and decreases trading costs.

While the effect of passive IO via information asymmetry channel is clear, there is debate on the

[2] We replicate the results in Zhang and Zhou, 2018 for both blockholders, and overall institutional investors for the sample period 1999-2020 in the appendix section of this paper. The results obtained are very similar to those from Zhang and Zhou (2018)

[3] Denis et al. (2003) finds that inclusion in S&P 500 are associated with an increase in earnings forecasts and realized earnings. Announcements of S&P 500 membership are also widely covered in the press and might generate investor recognition or attention

[4] Transient, Quasi-Indexers, and Dedicated. Transient (Dedicated) IOs are characterized by high (low) turnover and diversified (concentrated) portfolio, as such, transient (Dedicated) IOs are less (more) likely to enhance corporate governance but more (less) likely to engage in frequent trading and reduced (increased) information asymmetry.

effect via corporate governance. On the relation between passive ownership and firm value, Appel et al. (2016) finds support for positive effects in terms of influence on firms' governance choices, resulting in more independent directors, removal of takeover defenses, and more equal voting rights. They also find support for increased voting and improved long-term performance. On the other hand, Schmidt and Fahlenbrach (2017) find support for a negative effect of passive IO, specifically in the area of increase in CEO power, fewer new independent director appointments, negative announcement returns around independent directors' appointments, and worse mergers and acquisitions, suggesting that changed ownership structure causes higher agency costs. Schmidt and Fahlenbrach (2017) also try to reconcile inconsistency in their results relative to Appel et al. (2016) by explaining that the corporate governance measures examined by **?** are much easier to monitor while those examined in their papers are not. Hence, it could be that passive institutional investors have a heterogenous effect on corporate governance. – Passive ownership affects corporate governance positively when it comes to low-cost governance activities, and negatively when it comes to high-cost governance activities such as monitoring of mergers and acquisitions, and choice of board members. If passive IO is indeed less effective monitor, there is a possibility of a shift in control from shareholders to managers. Heath et al. (2022) cite that relative to active funds, index funds are less effective monitors: (a) less likely to vote against firm management on contentious governance issues; (b) they promote less board independence and worse pay-performance sensitivity at their portfolio companies. Such managerial entrenchment and the risk of managerial fraud significantly influence the use of different types of covenants. (Chava et al. (2010)). Increased managerial power can either worsen or improve agency cost of debt because entrenched managers can either worsen or resist shareholder opportunism. Increased managerial power is positively associated with the use of investment covenants that restrict managers' desire for inefficient "empire building". Increased managerial power is, however, negatively associated with the use of Dividend payout, Takeover-related covenants, and Subsequent financing Covenants. This is because strong managers value cash, will resist takeovers, and prefer less debt in the capital structure to avoid hard constraints on management.

2.2 Main Hypotheses

In explaining the relationship between institutional ownership and credit market, it is important to distinguish between (1) institutional investor types [5], (2) the two main channels through which institutional ownership can affect borrowing cost - *information asymmetry* and *corporate governance* (Wang and Zhang (2009)). Quasi-Indexers advocate for more firm transparency and disclosure to (1) reduce their transaction in response to fund flows throughout the year, (2) reduce their monitoring cost and facilitate monitoring. (Boone and White (2015)). This increased transparency can cause a reduction in debt covenants because lenders may be more willing to offer fewer restrictions when they have a clearer understanding of the firm's financial health [6]. The information asymmetry channel can also enhance the corporate governance function of passive funds by reducing cost of monitoring and increasing monitoring adequacy. However, passive IO can exacerbate the need for covenants, if they are weak monitors thereby giving more power to self-interested managers.

Hypothesis 1 (Fewer Investment Restrictions): Institutional investors are generally positively associated with firm innovation activities, which are risky in nature. Typically, managers are concerned about their continued tenure and are cautious in engaging in innovative activities to avoid the possibility of getting fired due to bad outcomes. Institutional owners, due to their better incentive (from owning a large share of the firm's stock) and abilities (from monitoring several firms) to monitor, are able to provide adequate monitoring to managers and incentivize them to engage in innovation activities by insulating them against the associated downside risk (Aghion et al. (2013)). Liu et al. (2019) provide empirical support for the claim that passive IO transfers more power to firm's management by showing that passive IOs are negatively related to CEO turnover probability. This reduced CEO turnover probability helps to mitigate CEOs' career concerns and allows managers to invest more in innovation. Yang (2021) further examine the innovation strategies of firms with high institutional ownership and show that these firms prefer to exploit existing knowledge instead of exploring new technology. I therefore hypothesize that, to the extent that passive IO

[5] Transient, Quasi-Indexers, and Dedicated. Transient (Dedicated) IOs are characterized by high (low) turnover and diversified (concentrated) portfolio, as such, transient (Dedicated) IOs are less (more) likely to enhance corporate governance but more (less) likely to engage in frequent trading and reduced (increased) information asymmetry.

[6] The reverse is also possible, where increased transparency can be positively related to debt covenants because more information now reveals certain risks in the firm's financial position leading to lenders including more specific covenants tailored to mitigate those risk

provides adequate incentive and environment for firms to engage in value-enhancing projects with limited downside risk, creditors will impose fewer investment restrictions.

Hypothesis 2 (Fewer Dividend Restrictions): Crane et al. (2016) find support for the argument that passive institutional investors as effective monitors cause firms to pay more dividends to mitigate agency costs. The effect of total institutional ownership on dividend covenant is ambiguous. On one hand, if creditors perceive excessive demand for dividend payout by institutional investors, they are likely to impose stricter dividend restrictions. This is more likely for transient/short term institutional ownership due to their myopic nature. On the other hand, if creditors perceive the demand for dividend payout by institutional investors as not excessive and accommodate these long-term institutional investors as co-monitors who monitor the firms through dividend demands, then creditors will impose fewer dividend restrictions. We, therefore, hypothesize that, to the extent that dividend demands by passive IO are perceived as an effective monitoring mechanism and not excessive, creditors will impose looser dividend restrictions.

Hypothesis 3 (Fewer Subsequent Financing Restriction): Boubaker et al. (2019) show evidence that long-term investors reduce levels of both debt issuance activities (due to substitution for the monitoring effect of debt) and equity issuance activities (due to concerns of dilution of ownership effect). However, relating to the choice between equity and debt, long-term investors are more associated with influencing corporate governance to ensure long-term performance and are more likely to have a preference for debt, especially short-term debt, because it imposes discipline on management. Short-term investors are associated with frequent trading and transparency of the information environment, which allows firms to issue more information-sensitive securities. Given the operational inflexibility cost associated with covenants, I, therefore, hypothesize that to the extent that passive IO reduces both the likelihood of issuing debt and equity, creditors will impose looser subsequent financing restrictions.

Hypothesis 4 (Event-Related Restriction): Institutional owners generally call for the removal of poison pills and support efforts to subject managers to disciplining effects of hostile takeover. (Appel et al. (2016)). Poison puts, which are a type of Event-related restrictions, are covenants that

stipulate that bondholders can redeem their bond before the maturity date and receive full payment if there is a takeover of the company. Following from above, the effect of institutional ownership on Event-related covenants is ambiguous. On one hand, creditors can impose stricter event-related covenants. This is because creditors detest takeovers which can be highly leveraged, hence increasing default risk and the risk of their claim priority being downgraded. Since institutional investors call for redemption of poison pills, exposing managers to hostile takeovers, passive IO can therefore impose stricter Event-related covenants to insulate themselves against this risk. On the other hand, if creditors accept the demands of passive IO, they may include fewer control-put covenants in the debt contract.

3 Data

I obtain data from several sources. First, I start with the Russell 1000/2000 Index data, then match with stock-level mutual fund ownership data, and finally match with Bond and Loan data. I briefly describe each data source in the following subsections.

3.1 Russell 1000/2000 Index Data

Russell 3000 consists of two major value-weighted indexes - Russell 1000, and Russell 2000. Russell 1000 consists of the largest 1000 US listed firms and Russell 2000 includes the subsequent 2000 firms. At the end of May of every year, Russell reconstitutes the 2 indexes by using proprietary measure of stocks' market capitalization of all firms based on their last trading day in May value. Russell 2000 is more prominent than Russell 1000 index, as more funds managers and dollar amounts are benchmarked to the Russell 2000 index. Specifically, Russell ranks all firms based on the obtained market capitalization value in descending order and assigns the first (largest) 1000 firms to Russell 1000 and the next 2000 firms to Russell 2000. Subsequent to index assignment, at the end of June, Russell assigns respective index weight to each firm based on their end-of-June float-adjusted market capitalization. In 2007, Russell started its banding policy around the 1000 cutoff. The sole purpose of this policy is to limit index turnover. The banding policy created 2 cut-off points around and in replacement of the cut-off previously at the rank of 1000 before 2007. Specifically, in addition to the stock's end of-May market capitalization ranking, Russell now uses two other

factors to determine stocks' index assignments: (1) the stock's index assignment in the previous reconstitution year, and (2) whether the stock's end-of-May market cap falls within a specific range of the cutoff between 1,000th and 1,001st largest end-of-May market caps. This implies that for a firm to switch from Russell 2000 (Russell 1000) to Russell 1000 (Russell 2000), its rank will have to drop below (increase beyond) the new cut-off point generated below (above) the 1000 cut-off points. The exact methodology used to compute the 2 new cut-off points (bands) is explained below. One, I rank all the stocks in Russell 3000E by their end-of-May size in descending order. Two, for each stock, I obtain a cumulative sum, that is the sum of its market capitalization and those of stocks smaller than it. Third, the obtained cumulative sum is expressed as a fraction of the total sum of the market capitalization of all firms in Russell 3000E (say Xi). Finally, for a firm to switch from Russell 2000 (Russell 1000) to Russell 1000 (Russell 2000), its cumulative sum ratio (Xi obtained above) will have to be at least 2.5% below (above) the cumulative sum ratio of the firm ranked 1000. Starting in 2017, Russell switched to "rank day"[7]. The implication of the "rank day" is that the Russell 3000 firms are now ranked based on market capitalization from this pre-announced "rank day", which no longer necessarily coincides with the last trading day in the month of May.

3.2 Stock Level Mutual Fund Ownership Data

I follow Appel et al. (2016) and others in how I obtain the proportion of a firm's stock held by passive vs active funds. First, I obtain quarterly mutual fund holding data of all U.S.-domiciled (open-ended) mutual funds and ETFs as reported to the SEC from Thompson Reuters. Each year, I filter to obtain holdings in the 3rd quarter only (i.e the quarter after index reconstitution). I then match it to CRSP mutual fund data using the MFLINKS table available on CRSP. A fund is labeled as "Passive" fund if the name on CRSP contains a string that suggests that it is an index fund [8]. Funds without these strings in their names are labeled as "Active" funds, while funds without a match (to CRSP name) are labeled as "Unclassified" funds. For each firm in each year, I then compute the proportion of each stock's shares outstanding (from CRSP securities data) that

[7]The "rank day" for 2017, 2018, 2019, and 2020 is as follows: May 12, May 11, May 10, May 8, respectively Ben-David et al. (2017)

[8]I use the same set of strings used by Appel et al. (2016) to identify index funds: Index, Idx, Indx, Ind,Russell, SP, SandP, SP, SandP, SP, DOW, Dow, DJ, MSCI, Bloomberg, KBW, NASDAQ, NY SE, ST OXX, F T SE, Wilshire, Morningstar, 100, 400, 500, 600, 900, 1000, 1500, 2000, and 5000.

is owned by active, and passive funds.

3.3 Stock Level Total Ownership Data (Bushee Classification)

I obtain institutional holdings data from Spectrum 13F filings. I then match this with Bushee (1998) institutional ownership classification data obtained from Brian Bushee's website using manager number[9]. Following Bushee (1998), institutional investors are in 3 categories: Transient, Quasi Indexers, and Dedicated Investors based on portfolio turnover, diversification, and expected investment horizon [10]. I then aggregate the total proportion of institutional ownership for each institution type for each firm in each year. Although there are shortcomings associated with using this classification (Schmidt and Fahlenbrach (2017)) [11]. I believe that the classification can be used to shed some important insights into some of the findings.

3.4 Bond Data

I obtain transaction-level data on publicly traded corporate bonds from the Mergent Fixed Income Securities Database (FISD) for the period 1990 to 2020. The data covers bonds issued by Compustat firms and contains issue-level information on the amount, coupon rate, covenants imposed, rating, etc. Restrictive covenants obtained from FISD include Investment restriction, Dividend restrictions, Subsequent financing restrictions, and Event-related restrictions. These covenants directly restrict borrower's discretion and policy in terms of investment, subsequent financing, dividend payout, and during events such as takeover and distress. Following Chava et al. (2010), the four broad categories of restrictive covenants can be further subdivided. Investment restrictions include indirect investment restrictions, merger restrictions, stock sale restrictions, and direct investment restrictions. Indirect investment restrictions include the following: transaction with affiliates restriction, fixed charge coverage, minimum net worth, restrictions on re-designating subsidiaries, and the after-acquired property clause. Dividend restriction includes dividend payment restriction and restriction on other payments. Subsequent financing restrictions include debt priority restrictions,

[9] http://acct.wharton.upenn.edu/faculty/bushee/IIclass.html.

[10] Transient investors have high portfolio turnover, diversified holdings, and short-term trading strategies. Quasi-indexers have low portfolio turnover, high diversification, and a long-term investment horizon. Dedicated institutional investors engage in long-term trading strategies with low turnover in a select set of firms.

[11] F13 aggregate data at the fund family/institution level. The aggregation causes some misclassifications of active institutional investors as quasi-indexers (QIX).

stock issuance restrictions, subordinate debt restrictions, and restrictions on sale and lease obligations. Event-related restrictions include default-related event covenants and change in control poison put.

3.5 Loan Data

I obtain data on loans from Dealscan. For each loan, Dealscan contains vital information, such as loan spreads, loan maturity, loan size, loan type, loan purpose, collateral requirement, and covenant information. From the data, we have 4 major types of covenants- Performance covenants, Capital covenants, Investment Restriction, and Dividend Restriction. Performance covenants serve as "trip-wires" and early indicators of distress by using current period information from the income statement, giving lenders the right (but not the obligation) to either renegotiate the debt contract or restrict certain activities of the firm when these covenants are violated. Performance covenants include Maximum Total Debt to Tangible Net Worth, Maximum Net Debt to Assets, Minimum Equity to Asset Ratio, Maximum Senior Leverage, Maximum Loan 8 to Value, Maximum Debt to Equity, Maximum Debt to Tangible Net Worth, Maximum Leverage ratio, Minimum Net Worth to Total Asset, Minimum Quick Ratio, and Minimum Current Ratio.

Capital Covenants directly control agency problem by imposing a limit on the proportion of leverage in the capital structure using information from the balance sheet. These include Maximum Total Debt to Tangible Net Worth, Maximum Net Debt to Assets, Minimum Equity to Asset Ratio, Maximum Senior Leverage, Maximum Loan to Value, Maximum Debt to Equity, Maximum Debt to Tangible Net Worth, Maximum Leverage ratio, Minimum Net Worth to Total Asset, Minimum Quick Ratio, and Minimum Current Ratio. Investment restriction only includes Max Capital Expenditure. Dividend restriction is simply coded as Yes or No in the data. For the first 2 categories of covenants, I obtain the number of Performance or Capital covenants as the number of such covenants included on the loan. While for Investment and Dividend restriction, I construct each as a dummy variable equal to 1 if the restriction exists, or 0 otherwise. I use the Dealscan-Compustat Link table to match Dealscan loan data to our Russell data. The linking table provides the corresponding Gvkey for each borrowing firm in DEALSCAN dataset.

[Insert Table 1 here]

3.6 Changes in Covenant Computation

We calculate the changes in covenant for each firm-bond after index reconstitution as the difference between the post-reconstitution value of each covenant type included on new bond/loan and the firm's average value of the same covenant included on bond/loan issued within the previous year before the reconstitution date.[12]

$$\Delta Covenant_{i,j,k,t} = Covenant_{i,j,k,t} - \overline{Covenant}_{i,k,t-1} \tag{1}$$

where i is the covenant type, j is the loan/bond issue, k is the firm, and t is the year.

4 Empirical methodology

Identifying the effect of passive ownership on debt covenants is not without challenges. This is due to 2 major reasons. First, unobservable firm characteristics such as firms' access to capital and investment opportunities could be driving the observed relationship between passive ownership and debt covenants. Second, there is a possibility of reverse causality, whereby high-risk firms, and hence with more strict debt covenant structure are preferred by passive ownership. To address these concerns, I use Russell 3000 index membership as a source of exogenous variation in passive ownership. Russell 3000 consists of 2 major value-weighted indexes - Russell 1000, and Russell 2000. Russell 1000 consists of the largest 1000 US listed firms and Russell 2000 includes the subsequent 2000 firms. Russell 2000 is more prominent than Russell 1000 index, as more funds managers and dollar amounts are benchmarked to the Russell 2000 index. Both indexes are value-weighted, as such, the largest stocks in Russell 2000 index have larger weights than the smallest stocks in Russell 1000 index, even though they are very similar in terms of market capitalization. After reconstitution, when a stock moves down from the bottom of Russell 1000 to the top of Russell 2000, its passive ownership increases. Russell reconstitutes index membership year in June based on a 1st measure-end of May market capitalization and then assigns corresponding index weight using a 2nd measure- float-adjusted market capitalization obtained in June. While instrumenting for Passive ownership using Russell 2000 index membership around close proximity to the cut-off, I

[12] We consider May and June of each year the event window, hence all loans/bonds issued during the event window are dropped from the regression.

control for the 2 mentioned market capitalization measures. Starting in 2007, Russell implemented the banding policy, where stocks do not switch from their previous year index except their market rank changes significantly. As a result, stocks close to the cut-off remain in the index they were assigned in the previous year. I follow the instrumental variable procedure developed by Appel et al. (2019) to control for the associated banding policy variables. Our first stage regression is presented as follows:

$$\begin{aligned} PassiveOwnership_{k,t} = \alpha_1 + \alpha_2 \times D(Russell2000_{k,t}) + \sum_{n=1}^{3}(y_n \times (ln(Mktcap_{k,t(may)}))^n \\ +\alpha_3 \times (ln(Float_{k,t(june)}) + \alpha_4 \times D(Banded_{k,t(may)}) + \alpha_5 \times D(Russell2000_{k,t-1}) \\ +\alpha_6 \times D(Banded_{i,t(may)}) \times D(Russell2000_{k,t-1}) + +\epsilon_{k,t} \end{aligned} \tag{2}$$

Where Passive Ownership is the proportion of a firm's stock held by passive investors in the quarter following index reconstitution (i.e September) as obtained from Spectrum S12 data. Russell2000 is a dummy variable equal to 1 if a stock is in Russell 2000 (or 0 otherwise) after index reconstitution in year t. Mktcap is obtained using the last day in May trading Prices and most recent available Compustat quarterly share outstanding data. Float is the market capitalization used to assign index weight in June and is directly obtained from Russell. The last 3 variables are directly associated with the banding Policy period, i.e after 2006. Banded is a dummy variable equal to 1 if a firm is close enough to the cut-off that it is banded. Since I control for all variables that determine Russell membership, D(Russell2000) serves as an instrument that captures the exogenous variation in passive ownership. (Appel et al. (2020)). I therefore restrict the sample to only the firms around the cut-off. Specifically, I use a bandwidth of 250 (i.e 250 firms before and after the cut-off).

In the second stage, I use a similar model to the first. Specifically, I replace the dependent variable with the outcome variable, and replace Russell2000 Dummy with the estimated value of passive Ownership obtained in the first stage.

$$\Delta Covenant_{i,j,k,t} = \beta_1 + \beta_2 \times \widehat{PassiveOwnership}_{k,t} + \sum_{n=1}^{3}(y_n \times (ln(Mktcap_{k,t(may)}))^n$$
$$+\beta_3 \times (ln(Float_{k,t(june)}) + \beta_4 \times D(Banded_{k,t(may)}) + \beta_5 \times D(Russell2000_{k,t-1}) \quad (3)$$
$$+\beta_6 \times D(Banded_{k,t(may)}) \times D(Russell2000_{k,t-1}) + +\epsilon_{i,j,k,t}$$

5 Empirical results

5.1 Validity of Instruments

First, I establish the relevance of the instrument-membership in Russell 2000 index- in explaining differences in passive ownership around the cut-off. In Table 2, I perform 1st Stage of the 2-Stage instrument variable regression, where I regress ownership on membership in Russell 2000 index, while controlling for other variables that explain passive ownership. In Panel A (Panel B), I show the 1st Stage regression result for matched bond data sample (loan data sample). For each matched sample, I use a bandwidth of 250 and 500 around the cut-off. Similar to studies using the same empirical design, I observe between 1.2% to 1.6% increase in passive institutional ownership [13]. I also perform a falsification test (in columns 3 and 4) by examining the effect of membership in Russell 2000 on active institutional ownership, and observe no significant difference, implying that membership in Russell 2000 index is associated with increased passive institutional investors only. Similarly, In Figure 1, I graphically show the differences in passive (and active) ownership for firms 500 below and above the cutoff. First, I obtain the mean ownership for each of the 500 firms in Russell 1000 and Russell 2000 indexes (red line). Second, for clarity purpose, I sort each of the 500 firms on both sides of the cutoffs into 100 bins based on rank and compute the average passive ownership for each bin (blue dot)[14]. The overall result shows that firms in Russell 2000 have about 1.4% higher passive ownership than firms in Russell. The result for active ownership shows only about 0.3% increase around the cutoff. This is consistent with previous studies that argue that Russell 2000 membership can serve as an instrument for passive ownership, while not affecting

[13] Schmidt and von Beschwitz (2022) finds between 1.2 and 1.5 percent increase in passive institutional ownership due to membership in Russell 2000 index for their matched sample.

[14] Bin -1(1) implies the smallest (largest) 5 firms in Russell 1000 (Russell 2000).

active ownership (e.g.,Appel et al. (2016),Appel et al. (2019)).

[Insert Table 2 here]

[Insert Figure 1 here]

5.2 Graphical Analysis of Outcome variable

I graphically depict the effect of passive institutional ownership on various covenants. For this analysis, I only consider covenants for 2 groups of firms using bandwidth of 500 around the cutoff. One, firms that recently moved from Russell 2000 to Russell 1000 (represented by -1), hence with a negative shock to their passive ownership. Two, firms that recently moved from Russell 1000 to Russell 2000 (represented by +1), hence with a positive shock to their passive ownership. In Figure 2, I show the result graphically by comparing the mean of covenant levels for these 2 groups of firms. Panel A (Panel B) shows the result for bond covenants (loan covenants). The mean is represented by the middle of the graph and the 95% confidence interval is represented by the height. Panel A shows a noticeable difference in covenants for all types of bond covenants. Panel B shows a noticeable decline in loan covenant for performance covenant only.

[Insert Figure 2 here]

5.3 Estimation Result

5.3.1 Two Stage IV

Table 3 shows the result of the 2nd stage of the 2-stage Instrumental variable regression. Panel A presents the result for Bonds, Panel B presents the result for Loans. In Panel A, I observe that a 1 percentage change in passive ownership leads to 0.76, 0.02, 0.19, and 0.25 reduction in Total, Investment, Dividend, and Subsequent financing Restrictions respectively. In Panel B, I do not observe any change in loan covenants as a result of a change in passive ownership.

[Insert Table 3 here]

5.3.2 Robustness Tests

In Table 4 and 5, I perform two major robustness tests. One, I use alternative bandwidths. In the main regression, I use bandwidth of 250. For robustness test, I follow prior studies to use commonly used bandwidths smaller (100) and wider (500) bandwidth. Two, I run separate regressions for different sample periods. This is because the adoption of the banding policy in 2007 introduced 3 additional variables (banded, index membership in the previous period, and their interactive term) in the regression. Schmidt and von Beschwitz (2022) cite that pooling observations for both pre-banding and post-banding periods and including the post-banding variables in the regression may lower the power of the test but not lead to any bias. I therefore partition the data based on whether index reconstitution year is before or after the banding policy started.

Wei and Young (2021) argues that there is a significant systematic conditional difference between unobservable (Russell market cap) and observed market cap (obtained from CRSP and Compustat) for the treatment and control group, which can possibly be driving the results obtained. Wei and Young (2021) shows that Fuzzy RDD is a better set-up, where membership is Russell 2000 is no longer an instrument, but instead, instrumented by a dummy variable indicating whether or not a firm's ranking is above the threshold. Wei and Young (2021) shows that there is no jump in the difference between unobservable and observed market cap for the treatment and control group using the fuzzy RDD. I therefore perform a robustness test for the bond sample using the 1999-2006 period using the Fuzzy RDD. The results are presented in the appendix section Table A7 and are mostly consistent with the overall results obtained previously.

[Insert Table 8 here]

[Insert Table 8 here]

The result in Table 4 shows that the results are mostly consistent with the results obtained earlier. In Panel A (for bonds), for the smaller bandwidth (100), I observe a stronger negative effect of passive ownership on Total, Investment, Dividend, and Subsequent Financing Restrictions. In the wider bandwidth, I observe a weaker effect (possibly due to size effect)[15]. However, I still

[15]Consistent with prior studies, I observe a negative effect between firm size and covenants. We, therefore, conjecture that as I increase the bandwidth, a negative effect of passive ownership on bond covenant is erased by the positive effect of size difference (between firms in Russell 1000 and Russell 2000) on bond covenant.

observe a significant negative result at 5% significance level for Total, and Subsequent financing Restrictions. In Panel B (for loans), I do not see any significant effect of passive ownership on loans covenant for both bandwidths. This implies that loan covenants are less sensitive to shock in passive ownership. In Table 5 (Panel A), I observe a negative significant effect of passive ownership on Total and Subsequent Financing Restrictions for pre and post-banding periods. For Investment restriction, I only observe a significant negative effect during the pre-banding period. For Dividend restriction, I only observe a significant negative effect for the post-banding period.

In Table 5 (Panel B), I only observe a negative effect of passive ownership on performance and dividend covenants for the post-banding period only. Since I use the same passive institutional ownership data from the 3rd quarter, the passive ownership data remains the same for the same firm throughout the year until the next reconstitution. I therefore transform the data to a firm-year structure by collapsing all bonds/loans issued within the next year after reconstitution to be a single observation and obtain the average change in covenant. I then perform a firm-year regression as a robustness test.[16]

6 Plausible Channels

I examine the relation between passive ownership and the use of debt covenants. Theoretically, the effect is ambiguous. On one hand, passive institutional investors can effectively monitor the management and incentivize them to engage in value-enhancing actions. In such a case, there is less need for debt covenants. On the other hand, passive institutional investors can be ineffective monitors and pass on too much power to managers, thereby causing a greater need for debt covenants. The results so far shows that the first effect dominates, and such, creditors have less need to impose debt covenants. In this section, I try to pinpoint which group of firms experience the strongest reduction in covenants as a result of exogenous change in passive IO.

[16]The result is consistent with the main result and is presented in table A2 in the appendix section

6.1 Time Horizon: Short Vs Long Term Bond

I distinguish between short-term and long-term bond by using the median maturity of bonds issued in the same industry. The idea here is that if passive ownership are effective monitors but they only hold their portfolio firms for as long as the firm remains in the market index, then we would expect that shorter-term bonds are more protected by passive IO and as a result, shorter-term bonds should experience a stronger reduction in covenants due to passive IO. In Table 6, we observe that the coefficient of the interactive term (Short-term X Passive) is negative and significant for Total, Investment, and Dividend Restriction.

[Insert Table 8 here]

6.2 Firm Agency/ Asymmetry Problem

I test whether the reduced covenant effects are stronger for firms that are more likely to benefit the adequate monitoring effect of Passive IO. We would expect that firms with higher agency cost should benefit more from Passive IO and experience a stronger decline in their debt covenants. Following Crane et al. (2016), I use low return on asset as a measure of agency cost and low tangibility as a measure of information asymmetry. For both variables, I generate a Dummy equal to 1 if the expected agency cost/asymmetry of a firm is lower than its industry median, or 1 otherwise (using their values from the pre-index reconstitution year) and then interact each with passive IO. In Table 7, panels A & B, we observe that the interactive terms (Low ROA dummy X Passive, and Low Tangibility X Passive) are only significant at 10 % significance level for Dividend Restriction only. The results obtained here are consistent with Crane et al. (2016), which implies that creditors allow passive IO to monitor firms via increased dividend payment (reduced Dividend restrictions).

[Insert Table 8 here]

6.3 Other Tests

6.3.1 Controlling for Managerial Entrenchment

Since Passive IO can either enhance or deter managerial agency risk, and managerial entrenchment can equally affect the choice and types of debt covenants included (Chava et al. (2010)), I directly

control for managerial entrenchment in the following regression. Similar to Chava et al. (2010) and Zhang and Zhou (2018), I use long CEO tenure as a measure of managerial agency. Long CEO tenure is a dummy variable that is equal to 1 if the CEO's tenure is in the top decile of the sample, and 0 otherwise. I also include an interactive term (Long CEO tenure dummy X Passive) to capture any effect of passive IO through management entrenchment. While the coefficient for Long CEO tenure dummy as well as the interaction with Passive IO is not significant, the result remains consistent with previous results obtained. The coefficient of Passive IO is negative and significant for Total, Dividend, Subsequent Financing, and Event-Related restrictions.

[Insert Table 8 here]

[Insert Table 8 here]

6.3.2 Passive IO, covenants and credit spread

I test for the effect of passive IO on both covenants and credit spread. Both covenants and credit spreads are concurrently determined at the time of debt initiation. up till now, this analysis has focused on the non-price term of the contract (covenants). In this section, I therefore examine the effect of passive IO on credit spread. I obtain credit spread as the difference between the yield of the bond and the yield of a government bond with equal maturity. I then compute changes in yield spread as the difference between the obtained yield spread of a given bond and the mean of the firm's yield spread from the year preceding the index reconstitution.[17]. I report the results in Table 9. In Column 1, I show that the effect of passive IO on yield spread is insignificant. In column 2, I control for total covenants in the regression. The coefficient of Passive IO remains insignificant implying that passive IO does not affect the yield spread. As expected, we observe a position relation between covenants and yield spread, implying that high-risk firms are likely to have higher covenants and higher yield spread. In column 3, I test to see if Passive IO influences yield spread through reduced covenants. The coefficient of the interactive term (Total Covenant X Passive) is insignificant, implying that reduced covenants caused by passive IO do not influence the yield spread.

[Insert Table 8 here]

[17] I have computed changes in covenants in a similar fashion

7 Panel Regression

In Tables 10 and 11, I classify institutional investors into different types and run a panel regression. Although, this approach is not free from endogeneity concerns. I undertake this approach not only to show similarity with the results obtained in Zhang and Zhou (2018) for blockholders, but also to shed some light on the relationship between different institutional investors and various debt covenant types. For each institutional ownership type, institutional ownership is given as the proportion of stock owned by institutions, measured as the last publicly available value before the debt is issued. In Table 10 (Panel A- Bonds), the result shows that institutional ownership is positively related to total covenant, and this is mostly due to Transient investors [18], whose investment horizon is short-term in nature. From the bond covenant breakdown, I observe that Quasi-Indexers and Dedicated investors are negatively related to Dividend restrictions, due to their long-term nature, and preference for dividend payments rather than exiting their positions. Quasi-indexers are also found to be positively related to Subsequent financing and Event-Related restrictions. In Table 10 (Panel B-Loans), similar to the results obtained in Panel A above, the result shows that institutional ownership is positively related to total covenant, and this is mostly due to Transient investors. From the loan covenant breakdown, I observe that Quasi-Indexers are positively associated with Performance covenants but negatively related to Capital covenants and Investment restrictions. In Panel 11 (Panel A-Bonds), I observe that positive relation between ownership and total bond covenant, which is only significantly positive for active ownership at 5% significance level. From the bond covenant breakdown, I observe a positive effect of both passive and active ownership on Subsequent financing and Event-related restrictions.

[Insert Table 8 here]

[Insert Table 8 here]

8 Concluding remarks

Debt covenants are crucial components of debt contracting (in an uncertain world). Covenants are included in debt contracts as a monitoring mechanism to reduce agency costs. Passive institutional

[18] This result is consistent with results for Zhang and Zhou (2018) for blockholders.

ownership can influence terms of contracting in the credit market and thereby impact the financing costs for the borrowing firms. In this paper, I examine how passive ownership may influence private and public debt covenants. We employ Russell Index Reconstitution data (between 1999 and 2020) as a source of exogenous change in passive ownership and use a 2-stage IV Regression to examine the effect of passive ownership on loan as well as bond market covenants. The extensive analysis shows that passive ownership leads to significantly lower covenants in public bond issuances and in particular reduced levels of (a) Investment, (b) Dividend, and (c) Subsequent financing restrictions. Loan markets show no evidence of covenant reduction implying that bank lending, typically collateralized, is insensitive to changes in passive ownership. The results are therefore consistent with the argument that passive investors are effective monitors, and their interests are closely aligned with creditors', thereby leading to lowering monitoring costs for creditors and reduced dependence on tighter bond covenant restrictions.

References

Aghion, P., Van Reenen, J., and Zingales, L. (2013). Innovation and institutional ownership. *American economic review*, 103(1):277–304.

Appel, I., Gormley, T. A., and Keim, D. B. (2020). Identification using russell 1000/2000 index assignments: A discussion of methodologies. *Critical Finance Review, Forthcoming*.

Appel, I. R., Gormley, T. A., and Keim, D. B. (2016). Passive investors, not passive owners. *Journal of Financial Economics*, 121(1):111–141.

Appel, I. R., Gormley, T. A., and Keim, D. B. (2019). Standing on the shoulders of giants: The effect of passive investors on activism. *The Review of Financial Studies*, 32(7):2720–2774.

Ben-David, I., Franzoni, F., and Moussawi, R. (2017). Exchange-traded funds. *Annual Review of Financial Economics*, 9:169–189.

Boone, A. L. and White, J. T. (2015). The effect of institutional ownership on firm transparency and information production. *Journal of Financial Economics*, 117(3):508–533.

Boubaker, S., Chourou, L., Saadi, S., and Zhong, L. (2019). Does institutional investor horizon influence us corporate financing decisions? *International Review of Financial Analysis*, 63:382–394.

Bushee, B. J. (1998). The influence of institutional investors on myopic r&d investment behavior. *Accounting review*, pages 305–333.

Chang, X., Chen, Y., Fu, K., and Yang, E. (2018). Institutional investor horizons, information environment, and firm financing decisions. *Information Environment, and Firm Financing Decisions (December 1, 2018)*.

Chava, S., Kumar, P., and Warga, A. (2010). Managerial agency and bond covenants. *The Review of Financial Studies*, 23(3):1120–1148.

Crane, A. D., Michenaud, S., and Weston, J. P. (2016). The effect of institutional ownership on

payout policy: Evidence from index thresholds. *The Review of Financial Studies*, 29(6):1377–1408.

Denis, D. K., McConnell, J. J., Ovtchinnikov, A. V., and Yu, Y. (2003). S&p 500 index additions and earnings expectations. *the Journal of Finance*, 58(5):1821–1840.

Heath, D., Macciocchi, D., Michaely, R., and Ringgenberg, M. C. (2022). Do index funds monitor? *The Review of Financial Studies*, 35(1):91–131.

Liu, Y., Shen, Y., Wang, J., and Wang, Q. (2019). Passive institutional investors and corporate innovation. *Baruch College Zicklin School of Business Research Paper*, (2019-07):02.

Schmidt, C. and Fahlenbrach, R. (2017). Do exogenous changes in passive institutional ownership affect corporate governance and firm value? *Journal of financial economics*, 124(2):285–306.

Schmidt, D. and von Beschwitz, B. (2022). Passive ownership and short selling. *International Finance Discussion Paper*, (1365).

Wang, A. W. and Zhang, G. (2009). Institutional ownership and credit spreads: An information asymmetry perspective. *Journal of Empirical Finance*, 16(4):597–612.

Wei, W. and Young, A. (2021). Regression discontinuity versus instrumental variables: A response to appel, gormley, and keim (2020).

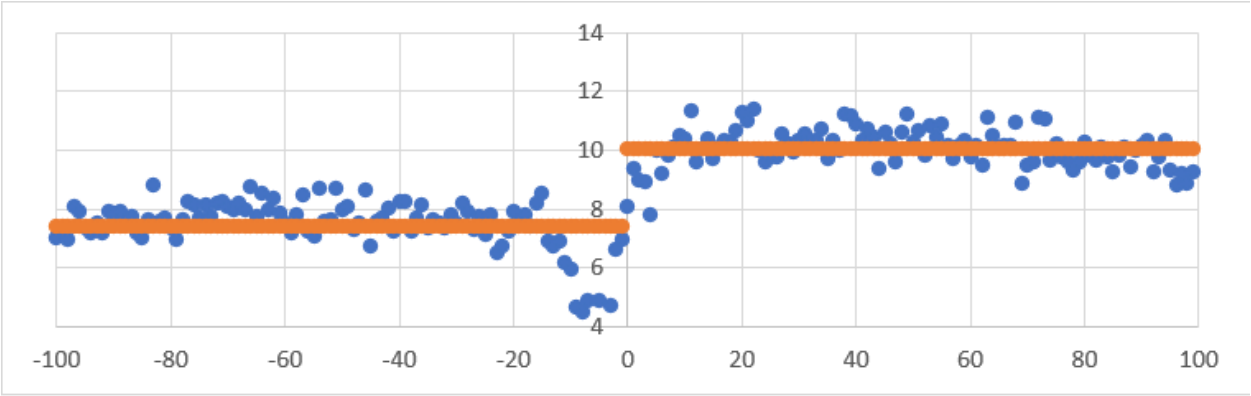
Yang, Y. (2021). *Are Passive Institutional Investors Engaged Monitors or Risk-Averse Owners? Both!* International Monetary Fund.

Zhang, X. and Zhou, S. (2018). Bond covenants and institutional blockholding. *Journal of Banking & Finance*, 96:136–152.

Figure 1: Passive and Active Ownership around the Russell 1000/2000 cutoff

This figure shows average passive (Panel A) and active (Panel B) ownership levels using a 500 bandwidth around the Russell1000/2000 cut-off (i.e the 500 smallest firms in the Russell 1000 and the 500 largest firms in the Russell 2000). Firms are ranked in a group of five. Hence, each number on the x-axis represents a group of five firms. (e.g., rank -1 (+1) represents the five smallest (largest) firms in Russell 1000 (2000). Each dot represents the average passive (or active) ownership level for a group of five firms. The horizontal lines indicate the average ownership level for each index around the same cut-off. The data covers the period 1999-2020

(a) Panel A: Passive Ownership (%)



(b) Panel B: Active Ownership (%)

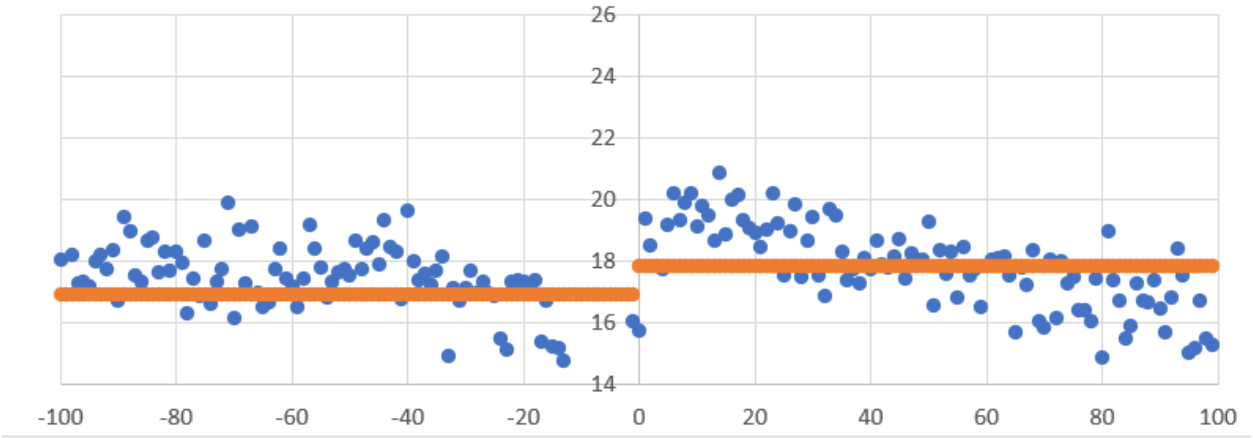
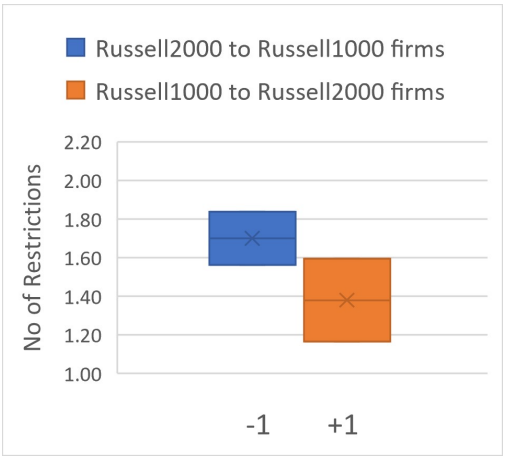


Figure 2: Covenant changes after index switches

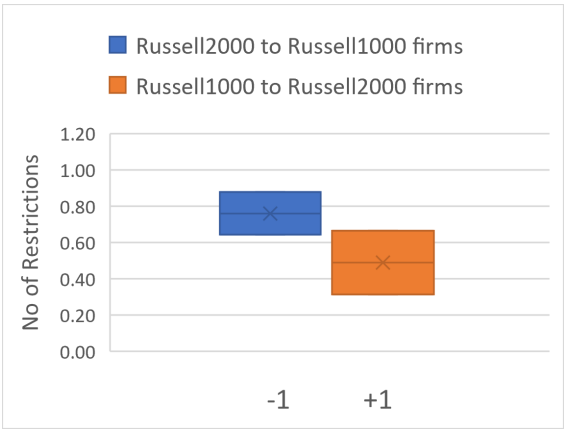
This figure shows changes to covenants after a firm moves between Russell 1000 and Russell 2000 index. For each covenant type, I show the average number of restrictions as well as the 95% confidence interval for each group of firms that move between indexes. I represent firms that move from Russell 2000 (Russell 1000) to Russell 1000 (Russell 2000) as -1 (+1) on the x-axis. Panel A presents Bond covenants, Panel B presents Loan covenants.

Panel A: Bond Covenants

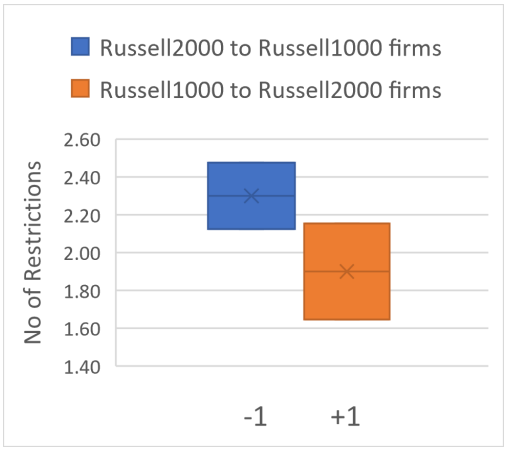
(a) Investment Restriction



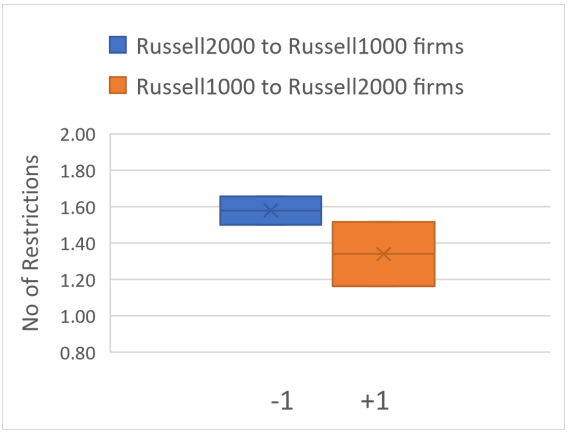
(b) Dividend Restriction



(c) Subsequent Financing Restriction



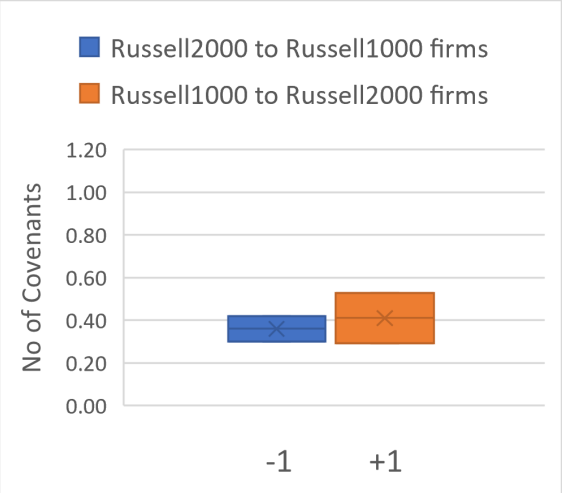
(d) Event Related Restriction



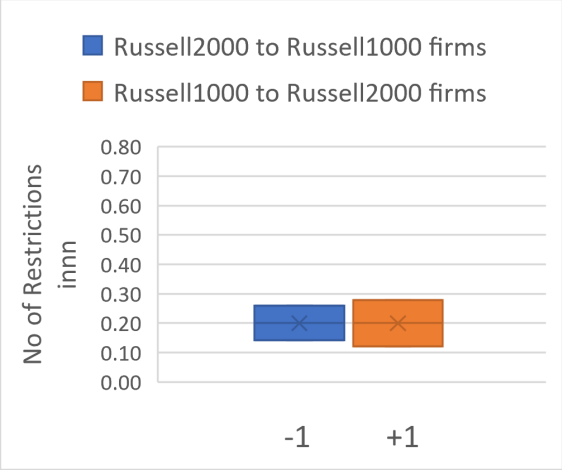
Panel B: Loan Covenants

(e) Financial Covenants

(f) Performance Covenants



(g) Capital Covenants



(h) Investment Restriction

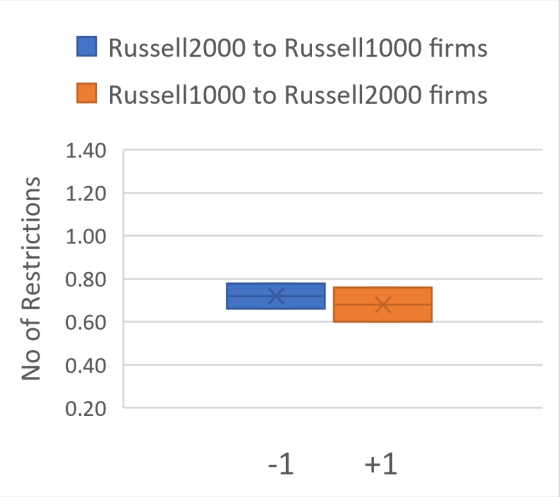


Table 1: Summary Statistics

This table reports the summary statistics of variables used in this analysis considering sample of +/- 250 companies around the cut-off for the period 1999-2020. Passive and Active ownership is the percent of shares outstanding held by passive, and active funds respectively. Total Classified ownership is the sum of passive and active ownership. In Panel B, I report the total number of bond covenants, as well as the number of covenants within each category. In Panel C, I report the total number of covenants for loans. Financial covenant is the sum of number of performance and capital covenants.

Panel A: Ownership Data

Variable	N	Mean	Median	Std. Dev.	25%	75%
Total Classified Ownership (%)	9195	25.90	25.47	14.01	14.45	36.92
Passive Ownership (%)	9195	8.53	5.26	8.13	1.65	14.36
Active Ownership (%)	9195	17.33	16.94	9.35	10.11	23.63

Panel B: Matched Bond Sample

Variable	N	Mean	Median	Std. Dev.	25%	75%
Total Bond Covenant	1042	5.55	5	3.25	4	9
Investment Restriction	1042	1.50	1	1.01	1	2
Dividend Restriction	1042	0.55	0	0.86	0	1
Subsequent financing Restriction	1042	2.07	2	1.23	1	3
Event Related Restriction	1042	1.43	2	0.71	1	2

Panel C: Matched Loan Sample

Variable	N	Mean	Median	Std. Dev.	25%	75%
Financial Covenant	1992	2.05	2	0.84	2	2
Performance Covenant	1992	1.54	2	0.86	1	2
Capital Covenant	1992	0.38	0	0.54	0	1
Investment Restriction	1992	0.13	0	0.33	0	0
Dividend Restriction	1992	0.63	1	0.48	0	1

Table 2: Russell 2000 membership as an instrument for passive (and Active) Ownership

This table reports the 1st stage regression of passive and active ownership on membership in Russell 2000 index. In Panel A (Panel B), I report the 1st stage regression for Bonds (Loans), In columns 1 and 2 (Columns 3 and 4), the dependent variable is Passive ownership (Active ownership). In all regressions, I control for a third polynomial of market cap (at the end of May), float-adjusted market cap at the end of June, and the following banding policy controls: D(Banded), an indicator for having an end-of-May market cap sufficiently close to the cutoff such that the firm does not switch indexes, Russell2000(i,t-1), an indicator whether the firm was in the Russell 2000 index at the end of the previous year May, and their interaction. I use a bandwidth of 250 and 500 around the cut-off. i.e. The regression includes the smallest 250/500 stocks in Russell 1000 and the largest 250/500 stocks in Russell 2000. I run firm-bond (firm-loan) level regressions using data from 1999 to 2020. I use robust standard errors and report t-statistics below the coefficients in parenthesis. ***, **, * indicate significance at the 1%, 5% and 10% level.

Panel A: Matched Bond Sample

	Passive Ownership (%)		Active Ownership (%)	
	(1)	(2)	(3)	(4)
D(Russell 2000)	1.580***	1.329***	-0.917	-0.601
	(3.50)	(4.18)	(-0.78)	(-0.69)
Float-adjusted market cap	4.165***	3.002***	7.006***	5.039***
	(10.13)	(8.33)	(8.74)	(8.77)
D(Banded)	0.998	0.907*	-2.791**	-1.061
	(1.57)	(1.69)	(-2.27)	(-1.09)
D(lag Russell 2000)	1.579***	1.577***	0.428	1.073
	(3.02)	(4.63)	(0.35)	(1.37)
D(lag Russell 2000)*D(Banded)	-1.993*	-1.849**	2.792	1.087
	(-1.93)	(-2.11)	(1.26)	(0.60)
Observations	811	1743	811	1743
R^2	0.842	0.836	0.241	0.198
Bandwidth	250	500	250	500
Year FE	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3

Panel B: Matched Loan Sample

	Passive Ownership (%)		Active Ownership (%)	
	(1)	(2)	(3)	(4)
D(Russell 2000)	1.183***	1.343***	-1.140	0.071
	(3.60)	(6.18)	(-1.33)	(0.12)
Float-adjusted market cap	3.943***	3.559***	6.177***	6.226***
	(13.06)	(17.52)	(9.21)	(13.99)
D(Banded)	0.447	0.343	0.139	0.926
	(0.87)	(0.75)	(0.12)	(0.97)
D(lag Russell 2000)	1.518***	1.393***	1.704*	0.842
	(4.45)	(6.14)	(1.84)	(1.39)
D(lag Russell 2000)*D(Banded)	-0.850	-1.042*	0.206	-0.401
	(-1.16)	(-1.69)	(0.13)	(-0.31)
Observations	1626	3145	1626	3145
R^2	0.850	0.851	0.283	0.267
Bandwidth	250	500	250	500
Year FE	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3

Table 3: Passive Ownership and Debt Covenants

This table reports the 2nd stage regression of an instrumental variable regression where passive ownership is instrumented by membership of the Russell 2000 index. In Panel A (Panel B), I report the effect of passive ownership on Bonds covenants (Loans covenants), In column 1, the dependent variable is Total covenant, in the subsequent columns, the dependent variable is subcategories of total covenant. In all regressions, I control for a third polynomial of market cap (at the end of May), float-adjusted market cap at the end of June, and the following banding policy controls: D(Banded), an indicator for having an end-of-May market cap sufficiently close to the cutoff such that the firm does not switch indexes, Russell2000(i,t-1), an indicator whether the firm was in the Russell 2000 index at the end of previous year May, and their interaction. I use a bandwidth of 250 around the cut-off. i.e. The regression includes the smallest 250 stocks in Russell 1000 and the largest 250 stocks in Russell 2000. I run firm-bond/firm-loan level regressions using data from 1999 to 2020. I use robust standard errors and report t-statistics below the coefficients in parenthesis. ***, **, * indicate significance at the 1%, 5% and 10% level.

Panel A: Bond Covenant

	(1) Total Restriction	(2) Investment	(3) Dividend	(4) Subsequent Financing	(5) Event-Related
Passive	-0.806**	-0.232**	-0.178*	-0.304**	-0.093
	(-2.03)	(-1.96)	(-1.96)	(-1.99)	(-1.09)
Float-adjusted market cap	2.389	0.716	0.420	0.998	0.256
	(1.37)	(1.41)	(1.05)	(1.48)	(0.69)
D(Banded)	0.430	0.075	0.236	0.162	-0.043
	(0.62)	(0.35)	(1.61)	(0.59)	(-0.29)
D(lag Russell 2000)	2.626**	0.812***	0.586**	0.918**	0.310
	(2.55)	(2.63)	(2.54)	(2.29)	(1.45)
D(lag Russell 2000)*D(Banded)	-1.072	-0.204	-0.220	-0.551	-0.097
	(-0.93)	(-0.55)	(-0.90)	(-1.28)	(-0.43)
Observations	811	811	811	811	811
R^2	.	.	.	.	0.029
Bandwidth	250	250	250	250	250
Year FE	Yes	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3	3

Panel B: Loan Covenant

	(1) Financial (Performance+Capital)	(2) Performance	(3) Capital	(4) Investment	(5) Dividend
Passive	0.004	-0.058	0.052	0.010	0.015
	(0.03)	(-0.59)	(1.10)	(0.30)	(0.29)
Float-adjusted market cap	-0.355	-0.103	-0.143	-0.109	-0.151
	(-0.74)	(-0.25)	(-0.74)	(-0.78)	(-0.72)
D(Banded)	-0.160	-0.187	0.032	-0.005	0.097
	(-1.13)	(-1.48)	(0.47)	(-0.14)	(1.38)
D(lag Russell 2000)	-0.298	-0.047	-0.229**	-0.022	0.005
	(-1.10)	(-0.21)	(-2.13)	(-0.27)	(0.04)
D(lag Russell 2000)*D(Banded)	0.274	0.197	0.033	0.044	-0.156
	(1.33)	(1.10)	(0.36)	(0.81)	(-1.52)
Observations	1626	1626	1626	1626	1626
R^2	0.053	0.038	0.026	0.026	0.035
Bandwidth	250	250	250	250	250
Year FE	Yes	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3	3

Table 4: Robustness Test I (Alternate Bandwidth)

This table reports the 2nd stage regression of an instrumental variable regression where passive ownership is instrumented by membership of the Russell 2000 index using a bandwidth of 100 (and 500). i.e., The regression includes the smallest 100 (500) stocks in Russell 1000 and the largest 100 (500) stocks in Russell 2000. In Panel A (Panel B), I report the effect of passive ownership on Bonds covenants (Loans covenants), In column 1, the dependent variable is Total covenant, in the subsequent columns, the dependent variable is subcategories of total covenant. In all regressions, I control for a third polynomial of market cap (at the end of May), float-adjusted market cap at the end of June, and the following banding policy controls: D(Banded), an indicator for having an end-of-May market cap sufficiently close to the cutoff such that the firm does not switch indexes, (Russell2000)(i,t-1), an indicator whether the firm was in the Russell 2000 index at the end of previous year May, and their interaction. I run firm-bond level regressions using data from 1999 to 2020. I use robust standard errors and report t-statistics below the coefficients in parenthesis. ***, **, * indicate significance at the 1%, 5% and 10% level.

Panel A: Bond Covenant

	Total Restriction		Investment		Dividend		Subsequent Financing		Event-Related	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Passive	-2.794**	-0.728**	-0.757**	-0.144	-0.515**	-0.132*	-1.111**	-0.321**	-0.411*	-0.130*
	(-2.19)	(-2.14)	(-2.01)	(-1.46)	(-2.14)	(-1.74)	(-2.21)	(-2.36)	(-1.86)	(-1.75)
Float-adjusted market cap	12.654**	1.662	3.444*	0.269	2.191*	0.238	5.111**	0.777*	1.908*	0.378
	(2.03)	(1.57)	(1.88)	(0.89)	(1.89)	(1.00)	(2.08)	(1.82)	(1.74)	(1.63)
D(Banded)	3.107	0.064	0.774	-0.048	0.771	0.209*	1.266	0.032	0.296	-0.129
	(1.02)	(0.11)	(0.88)	(-0.30)	(1.38)	(1.83)	(1.03)	(0.13)	(0.58)	(-1.02)
D(lag Russell 2000)	8.169**	1.930**	2.190*	0.447**	1.620**	0.470***	3.252**	0.711**	1.108	0.303*
	(1.97)	(2.44)	(1.79)	(2.00)	(2.15)	(2.65)	(1.99)	(2.20)	(1.53)	(1.77)
D(lag Russell 2000)*D(Banded)	-3.346	-0.256	-0.632	0.081	-0.733	-0.159	-1.669	-0.194	-0.311	0.016
	(-0.74)	(-0.27)	(-0.49)	(0.28)	(-0.89)	(-0.81)	(-0.92)	(-0.50)	(-0.42)	(0.08)
Observations	319	1737	319	1737	319	1737	319	1737	319	1737
R^2	.	.	.	.	.	.	.	.	.	.
Bandwidth	100	500	100	500	100	500	100	500	100	500
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3	3	3	3	3	3	3

Panel B: Loan Covenant

	Financial		Performance		Capital		Investment		Dividend	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Passive	-0.074	-0.051	0.060	-0.076	0.036	0.023	-0.171	0.002	-0.083	-0.046
	(-0.32)	(-0.71)	(0.30)	(-1.24)	(0.39)	(0.77)	(-1.51)	(0.11)	(-0.75)	(-1.45)
Float-adjusted market cap	-0.040	-0.120	-0.560	-0.004	-0.122	-0.031	0.642	-0.085	0.228	0.034
	(-0.04)	(-0.44)	(-0.68)	(-0.02)	(-0.32)	(-0.28)	(1.45)	(-1.06)	(0.51)	(0.29)
D(Banded)	-0.426	-0.099	-0.603**	-0.148	-0.018	0.050	0.196	-0.001	0.058	0.008
	(-1.23)	(-0.80)	(-2.03)	(-1.35)	(-0.13)	(0.84)	(1.26)	(-0.05)	(0.38)	(0.14)
D(lag Russell 2000)	-0.155	-0.101	-0.459	0.030	-0.196	-0.131**	0.500	-0.000	0.213	0.049
	(-0.23)	(-0.63)	(-0.80)	(0.22)	(-0.76)	(-2.00)	(1.64)	(-0.00)	(0.70)	(0.70)
D(lag Russell 2000)*D(Banded)	0.495	0.091	0.641	0.078	0.131	-0.019	-0.277	0.032	-0.118	-0.028
	(0.92)	(0.54)	(1.42)	(0.53)	(0.61)	(-0.25)	(-1.17)	(0.74)	(-0.50)	(-0.35)
Observations	635	3138	635	3138	635	3138	635	3138	635	3138
R^2	0.069	0.027	0.027	0.012	0.093	0.044	.	0.050	0.055	0.069
Bandwidth	100	500	100	500	100	500	100	500	100	500
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3	3	3	3	3	3	3

Table 5: Robustness Test II (Alternate Periods)

This table reports the 2nd stage regression of an instrumental variable regression where passive ownership is instrumented by membership of the Russell 2000 index for different sample periods. In Panel A (Panel B), I report the effect of passive ownership on Bonds covenants (Loans covenants). For each covenant type, I run two separate regressions- one for observations before the banding policy started (in 2007) and another regression for observations after the banding policy started. In all regressions, I control for a third polynomial of market cap (at the end of May), float-adjusted market cap at the end of June, and the following banding policy controls: D(Banded), an indicator for having an end-of-May market cap sufficiently close to the cutoff such that the firm does not switch indexes, Russell2000(i,t-1), an indicator whether the firm was in the Russell 2000 index at the end of previous year May, and their interaction. I run firm-bond level regressions using data from 1999 to 2020. I use robust standard errors and report t-statistics below the coefficients in parenthesis. ***, **, * indicate significance at the 1%, 5% and 10% level.

Panel A: Bond Covenant

	Total Restriction		Investment		Dividend		Subsequent Financing		Event-Related	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Banding Period	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Passive	-2.497*	-0.656***	-0.714	-0.135*	-0.177	-0.176***	-1.147*	-0.246***	-0.459	-0.099**
	(-1.66)	(-2.82)	(-1.61)	(-1.93)	(-0.52)	(-3.27)	(-1.90)	(-2.69)	(-1.35)	(-2.12)
Float-adjusted market cap	0.468	3.065***	0.176	0.571*	-0.146	0.743***	0.293	1.187***	0.145	0.564**
	(0.45)	(2.64)	(0.57)	(1.69)	(-0.60)	(2.70)	(0.71)	(2.61)	(0.60)	(2.39)
D(Banded)		0.304		0.083		0.264**		0.051		-0.094
		(0.53)		(0.49)		(2.06)		(0.23)		(-0.73)
D(lag Russell 2000)		2.200***		0.621***		0.621***		0.644***		0.313***
		(3.65)		(3.49)		(4.38)		(2.64)		(2.85)
D(lag Russell 2000)*D(Banded)		-0.766		-0.176		-0.278		-0.252		-0.059
		(-0.80)		(-0.59)		(-1.28)		(-0.70)		(-0.30)
Observations	684	1059	684	1059	684	1059	684	1059	684	1059
R^2	0.015	.	.	.	0.096	.	.	.	0.040	0.009
Bandwidth	500	500	500	500	500	500	500	500	500	500
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3	3	3	3	3	3	3

Panel B: Loan Covenant

	Financial		Performance		Capital		Investment		Dividend	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Banding Period	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Passive	-0.189	-0.098**	-0.104	-0.100**	-0.122	0.018	0.037	-0.016	-0.028	-0.058***
	(-0.48)	(-2.14)	(-0.33)	(-2.47)	(-0.70)	(1.01)	(0.31)	(-1.35)	(-0.17)	(-2.60)
Float-adjusted market cap	-0.275	0.488*	-0.254	0.435*	0.179	-0.045	-0.199	0.098	-0.097	0.225
	(-0.56)	(1.66)	(-0.64)	(1.66)	(0.84)	(-0.40)	(-1.34)	(1.29)	(-0.49)	(1.61)
D(Banded)		-0.030		-0.099		0.056		0.013		0.037
		(-0.23)		(-0.87)		(0.90)		(0.43)		(0.61)
D(lag Russell 2000)		0.076		0.132		-0.110**		0.053*		0.103*
		(0.64)		(1.28)		(-2.43)		(1.79)		(1.82)
D(lag Russell 2000)*D(Banded)		-0.026		0.004		-0.036		0.005		-0.071
		(-0.14)		(0.03)		(-0.44)		(0.12)		(-0.81)
Observations	1331	1814	1331	1814	1331	1814	1331	1814	1331	1814
R^2	0.040	.	0.056	.	.	0.051	0.010	0.012	0.055	0.021
Bandwidth	500	500	500	500	500	500	500	500	500	500
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3	3	3	3	3	3	3

Table 6: Heterogenity test: Short term Vs Long term Bond

This table reports the 2nd stage regression of an instrumental variable regression where passive ownership is instrumented by membership of the Russell 2000 index for different sample periods. I report the effect of passive ownership on Bond covenants. In all regressions, I control for a third polynomial of market cap (at the end of May), float-adjusted market cap at the end of June, and the following banding policy controls: D(Banded), an indicator for having an end-of-May market cap sufficiently close to the cutoff such that the firm does not switch indexes, Russell2000(i,t-1), an indicator whether the firm was in the Russell 2000 index at the end of previous year May, and their interaction. I run firm-bond level regressions using data from 1999 to 2020. I use robust standard errors and report t-statistics below the coefficients in parenthesis. ***, **, * indicate significance at the 1%, 5% and 10% level.

Bond Covenant

	(1) Total Restriction	(2) Investment	(3) Dividend	(4) Subsequent Financing	(5) Event-Related
Passive	-0.410	-0.030	-0.046	-0.213	-0.122*
	(-1.16)	(-0.27)	(-0.52)	(-1.60)	(-1.82)
Short-term X Passive	-0.786*	-0.294**	-0.215**	-0.261	-0.016
	(-1.77)	(-2.08)	(-2.07)	(-1.56)	(-0.22)
Short-term	4.329	1.746*	1.335*	1.266	-0.018
	(1.38)	(1.75)	(1.83)	(1.07)	(-0.03)
Float-adjusted market cap	1.560	0.240	0.215	0.732	0.373*
	(1.31)	(0.64)	(0.73)	(1.63)	(1.69)
D(Banded)	0.967	0.262	0.427**	0.363	-0.085
	(1.18)	(1.02)	(2.18)	(1.13)	(-0.58)
D(lag Russell 2000)	2.699***	0.710**	0.649**	0.995**	0.345*
	(2.58)	(2.19)	(2.51)	(2.48)	(1.75)
D(lag Russell 2000)*D(Banded)	-1.075	-0.206	-0.362	-0.485	-0.022
	(-0.84)	(-0.51)	(-1.21)	(-1.00)	(-0.10)
Observations	1736	1736	1736	1736	1736
R^2	.	.	.	.	.
Bandwidth	500	500	500	500	500
Year FE	Yes	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3	3

Table 7: Heterogenity test: Agency Cost

This table reports the 2nd stage regression of an instrumental variable regression where passive ownership is instrumented by membership of the Russell 2000 index using a bandwidth of 100 (and 500). i.e., The regression includes the smallest 100 (500) stocks in Russell 1000 and the largest 100 (500) stocks in Russell 2000. In Panel A (Panel B), I report the effect of passive ownership on Bonds covenants (Loans covenants), In column 1, the dependent variable is Total covenant, in the subsequent columns, the dependent variable is subcategories of total covenant. In all regressions, I control for a third polynomial of market cap (at the end of May), float-adjusted market cap at the end of June, and the following banding policy controls: D(Banded), an indicator for having an end-of-May market cap sufficiently close to the cutoff such that the firm does not switch indexes, (Russell2000)(i,t-1), an indicator whether the firm was in the Russell 2000 index at the end of previous year May, and their interaction. I run firm-bond level regressions using data from 1999 to 2020. I use robust standard errors and report t-statistics below the coefficients in parenthesis. ***, **, * indicate significance at the 1%, 5% and 10% level.

Panel A: Low ROA

	(1) Total Restriction	(2) Investment	(3) Dividend	(4) Subsequent Financing	(5) Event-Related
Passive	-0.704	-0.195	0.031	-0.308	-0.233
	(-1.01)	(-0.95)	(0.19)	(-1.10)	(-1.31)
Low ROA dummy X Passive	-0.086	0.028	-0.153*	-0.056	0.095
	(-0.22)	(0.25)	(-1.69)	(-0.35)	(0.94)
Low ROA dummy	0.480	-0.240	1.066*	0.315	-0.662
	(0.18)	(-0.30)	(1.68)	(0.28)	(-0.91)
Float-adjusted market cap	1.735	0.393	-0.050	0.830	0.562
	(1.06)	(0.83)	(-0.12)	(1.27)	(1.38)
D(Banded)	0.361	0.029	0.333**	0.213	-0.215
	(0.56)	(0.16)	(2.42)	(0.78)	(-1.40)
D(lag Russell 2000)	2.211**	0.563*	0.441*	0.862**	0.345
	(2.17)	(1.94)	(1.76)	(2.08)	(1.37)
D(lag Russell 2000)*D(Banded)	-1.037	-0.129	-0.346	-0.646	0.084
	(-0.84)	(-0.35)	(-1.28)	(-1.30)	(0.28)
Observations	1479	1479	1479	1479	1479
R^2	.	.	.	.	.
Bandwidth	500	500	500	500	500
Year FE	Yes	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3	3

Panel B: Low Tangibility Ratio

	(1) Total Restriction	(2) Investment	(3) Dividend	(4) Subsequent Financing	(5) Event-Related
Passive	-0.542	-0.097	-0.077	-0.246*	-0.123*
	(-1.44)	(-0.90)	(-0.80)	(-1.70)	(-1.71)
Low Tangibility dummy X Passive	-0.721	-0.187	-0.237*	-0.266	-0.030
	(-1.36)	(-1.31)	(-1.76)	(-1.27)	(-0.33)
Low Tangibility dummy	5.001	1.269	1.669*	1.779	0.283
	(1.28)	(1.21)	(1.69)	(1.15)	(0.41)
Float-adjusted market cap	1.557	0.237	0.216	0.722	0.382*
	(1.31)	(0.72)	(0.70)	(1.56)	(1.72)
D(Banded)	0.082	-0.045	0.205	0.045	-0.122
	(0.12)	(-0.25)	(1.27)	(0.16)	(-0.94)
D(lag Russell 2000)	2.530**	0.602**	0.664**	0.931**	0.333*
	(2.47)	(2.16)	(2.47)	(2.29)	(1.76)
D(lag Russell 2000)*D(Banded)	-1.438	-0.226	-0.538	-0.636	-0.038
	(-1.05)	(-0.59)	(-1.62)	(-1.18)	(-0.15)
Observations	1736	1736	1736	1736	1736
R^2	.	.	.	.	.
Bandwidth	500	500	500	500	500
Year FE	Yes	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3	3

Table 8: Heterogenity test: Managerial Entrenchment

This table reports the 2nd stage regression of an instrumental variable regression where passive ownership is instrumented by membership of the Russell 2000 index for different sample periods. I report the effect of passive ownership on Bond covenants. In all regressions, I control for a third polynomial of market cap (at the end of May), float-adjusted market cap at the end of June, and the following banding policy controls: D(Banded), an indicator for having an end-of-May market cap sufficiently close to the cutoff such that the firm does not switch indexes, Russell2000(i,t-1), an indicator whether the firm was in the Russell 2000 index at the end of previous year May, and their interaction. I run firm-bond level regressions using data from 1999 to 2020. I use robust standard errors and report t-statistics below the coefficients in parenthesis. ***, **, * indicate significance at the 1%, 5% and 10% level.

Bond Covenant

	(1) Total Restriction	(2) Investment	(3) Dividend	(4) Subsequent Financing	(5) Event-Related
Passive	-1.120**	-0.141	-0.224**	-0.513***	-0.242**
	(-2.40)	(-1.13)	(-2.17)	(-2.60)	(-2.31)
Long CEO tenure dummy X Passive	0.060	-0.042	-0.017	0.058	0.060
	(0.22)	(-0.62)	(-0.29)	(0.52)	(1.05)
Long CEO tenure dummy	-0.200	0.373	0.304	-0.334	-0.543
	(-0.08)	(0.59)	(0.58)	(-0.32)	(-1.01)
Float-adjusted market cap	3.591**	0.401	0.690*	1.628**	0.873**
	(2.16)	(0.95)	(1.84)	(2.29)	(2.37)
D(Banded)	-0.241	-0.251	0.208	0.038	-0.236
	(-0.31)	(-1.32)	(1.25)	(0.11)	(-1.34)
D(lag Russell 2000)	2.387**	0.448*	0.662***	0.918**	0.360*
	(2.54)	(1.86)	(3.19)	(2.24)	(1.73)
D(lag Russell 2000)*D(Banded)	0.448	0.378	-0.151	-0.026	0.247
	(0.34)	(1.10)	(-0.53)	(-0.05)	(0.87)
Observations	1299	1299	1299	1299	1299
R^2	.	0.021	.	.	.
Bandwidth	500	500	500	500	500
Year FE	Yes	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3	3

Table 9: Passive IO, covenants and credit spread

This table reports the 2nd stage regression of an instrumental variable regression where passive ownership is instrumented by membership of the Russell 2000 index for different sample periods. I report the effect of passive ownership on Bond covenants. In all regressions, I control for a third polynomial of market cap (at the end of May), float-adjusted market cap at the end of June, and the following banding policy controls: D(Banded), an indicator for having an end-of-May market cap sufficiently close to the cutoff such that the firm does not switch indexes, Russell2000(i,t-1), an indicator whether the firm was in the Russell 2000 index at the end of previous year May, and their interaction. I run firm-bond level regressions using data from 1999 to 2020. I use robust standard errors and report t-statistics below the coefficients in parenthesis. ***, **, * indicate significance at the 1%, 5% and 10% level.

Bond Covenant

	(1) Yield spread	(2) Yield spread	(3) Yield spread
Passive	-0.109	-0.067	0.048
	(-0.58)	(-0.40)	(0.19)
Total Covenant		0.317***	0.773
		(7.61)	(1.17)
Total Covenant X Passive			-0.057
			(-0.70)
Float-adjusted market cap	-0.407	-0.489	-0.218
	(-0.64)	(-0.82)	(-0.25)
D(Banded)	0.337	0.503	0.065
	(0.63)	(0.99)	(0.07)
D(lag Russell 2000)	0.437	0.147	0.290
	(0.76)	(0.27)	(0.44)
D(lag Russell 2000)*D(Banded)	-1.016	-0.932	-0.640
	(-1.47)	(-1.47)	(-0.70)
Observations	1059	1059	1059
R^2	0.080	0.194	.
Bandwidth	500	500	500
Year FE	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3

Table 10: Panel Regression-Investment horizons and the effect of Institutional Ownership on Bonds covenant

This table reports the result from the panel regression using all observations after matching bond data with F13 data. Institutional ownership is classified using Bushee (2001) classification and each is defined as the percentage of total shares owned by each of these institutional investor groups. In Panel A (Panel B), I report the effect of various institutional ownership types on Bonds covenants (Loans covenants). I run firm-bond level regressions using data from 1999 to 2020. I use robust standard errors and report t-statistics below the coefficients in parenthesis. ***, **, * indicate significance at the 1%, 5% and 10% level.

Panel A: Bond Covenant

	(1) Total Restriction	(2) Investment	(3) Dividend	(4) Subsequent Financing	(5) Event-Related
Quasi-Indexers	0.157	0.051	-0.163***	0.140***	0.128***
	(1.20)	(1.20)	(-5.30)	(2.61)	(3.46)
Transient	2.899***	0.493***	0.612***	0.951***	0.844***
	(9.99)	(5.50)	(8.61)	(8.53)	(11.14)
Dedicated	-0.238	-0.173	-0.232***	0.056	0.111
	(-0.64)	(-1.47)	(-2.62)	(0.39)	(1.06)
Logsale	-0.425***	-0.109***	-0.094***	-0.123***	-0.099***
	(-16.84)	(-13.86)	(-16.49)	(-12.48)	(-14.47)
Debttoasset	1.843***	0.553***	0.521***	0.428***	0.342***
	(7.20)	(6.85)	(8.37)	(4.30)	(5.29)
MTB	0.074**	0.016	-0.009	0.015	0.052***
	(2.21)	(1.54)	(-1.25)	(1.13)	(5.54)
Short term debt	-3.470***	-0.935***	-0.727***	-0.967***	-0.841***
	(-8.91)	(-8.05)	(-8.65)	(-6.21)	(-8.28)
Ebittoasset	3.773***	0.552***	0.496***	1.468***	1.257***
	(8.14)	(3.73)	(4.67)	(8.19)	(11.31)
Fixedassettotoal	0.416***	0.138***	0.066***	0.245***	-0.033
	(4.70)	(4.89)	(3.11)	(6.71)	(-1.32)
Callable	1.233***	0.304***	0.179***	0.541***	0.210***
	(19.19)	(14.84)	(14.60)	(18.99)	(11.31)
Putable	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)
Seniority	-0.190	-0.075**	-0.277***	0.114**	0.049*
	(-1.61)	(-2.08)	(-10.58)	(2.53)	(1.67)
Bond size	0.098***	0.043***	0.047***	0.015	-0.007
	(3.56)	(4.94)	(8.59)	(1.18)	(-0.88)
Duration	-0.017***	-0.005***	-0.003***	-0.004***	-0.004***
	(-8.79)	(-8.31)	(-10.99)	(-4.26)	(-7.03)
D(Baarating)	-0.033	-0.106***	-0.148***	0.016	0.206***
	(-0.75)	(-7.72)	(-20.54)	(0.76)	(13.45)
D(Belowbaadummy)	1.437***	0.298***	0.384***	0.377***	0.379***
	(17.74)	(11.80)	(21.18)	(11.41)	(16.91)
Observations	10005	10005	10005	10005	10005
R^2	0.406	0.439	0.440	0.293	0.340
Year FE	Yes	Yes	Yes	Yes	Yes

Panel B: Loan Covenant

	(1) Financial	(2) Performance	(3) Capital	(4) Investment	(5) Dividend
Quasi-Indexers	-0.077*	0.030	0.011	-0.118***	0.040*
	(-1.76)	(0.72)	(0.51)	(-5.74)	(1.77)
Transient	0.339***	0.418***	-0.142***	0.063**	0.257***
	(4.78)	(6.27)	(-4.07)	(1.97)	(8.09)
Dedicated	0.048	0.085	-0.046	0.010	0.080
	(0.41)	(0.76)	(-0.79)	(0.18)	(1.38)
Logsale	-0.105***	-0.091***	0.009*	-0.023***	-0.057***
	(-12.57)	(-11.55)	(1.73)	(-6.47)	(-13.51)
Debttoasset	0.000	0.000	-0.000***	0.000	0.000***
	(0.74)	(0.72)	(-3.53)	(1.43)	(4.39)
MTB	-0.028***	-0.023***	0.009**	-0.014***	-0.013***
	(-3.34)	(-3.67)	(2.09)	(-2.87)	(-3.25)
Short term debt	0.000***	0.000***	0.000	0.000	0.000
	(2.73)	(2.71)	(0.25)	(0.35)	(0.95)
Ebittoasset	0.000***	0.000***	-0.000***	-0.000	0.000***
	(14.50)	(28.96)	(-25.60)	(-1.41)	(17.72)
Fixedassettotoal	0.000***	0.000	0.000***	-0.000***	-0.000***
	(7.52)	(0.11)	(13.94)	(-3.11)	(-7.52)
Loan size	-0.020**	0.035***	-0.026***	-0.029***	0.004
	(-2.22)	(4.12)	(-4.75)	(-7.40)	(0.82)
Duration	0.037***	0.070***	-0.026***	-0.007**	0.014***
	(4.91)	(9.56)	(-6.13)	(-2.26)	(3.89)
Observations	11109	11109	11109	11109	11109
R^2	0.262	0.257	0.254	0.222	0.263
Loantype FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Loan purpose FE	Yes	Yes	Yes	Yes	Yes

Table 11: Panel Regression-Investor Activism and the effect of Institutional Ownership on Bonds covenant

This table reports the result from the panel regression using all observations after matching bond data with S12 data. Institutional ownership is classified using Bushee (2001) classification and each is defined as the percentage of total shares owned by each of these institutional investor groups. In Panel A (Panel B), I report the effect of various institutional ownership types on Bonds covenants (Loans covenants). I run firm-bond level regressions using data from 1999 to 2020. I use robust standard errors and report t-statistics below the coefficients in parenthesis. ***, **, * indicate significance at the 1%, 5% and 10% level.

Panel A: Bond Covenant

	(1) Total Restriction	(2) Investment	(3) Dividend	(4) Subsequent Financing	(5) Event-Related
Passive	2.179*	0.160	-0.341	1.179**	1.181***
	(1.83)	(0.45)	(-1.19)	(2.55)	(3.82)
Active	0.877**	-0.127	-0.169*	0.337**	0.836***
	(2.26)	(-1.05)	(-1.89)	(2.13)	(7.77)
Logsale	-0.366***	-0.091***	-0.089***	-0.089***	-0.097***
	(-12.38)	(-10.24)	(-13.17)	(-7.63)	(-12.33)
Debttoasset	2.233***	0.596***	0.566***	0.499***	0.571***
	(7.70)	(6.57)	(8.06)	(4.47)	(7.73)
MTB	0.059*	-0.001	-0.010	0.010	0.060***
	(1.71)	(-0.05)	(-1.52)	(0.67)	(6.17)
Short term debt	-4.031***	-1.097***	-0.657***	-1.171***	-1.106***
	(-9.91)	(-9.18)	(-7.43)	(-7.11)	(-10.02)
Ebittoasset	2.822***	0.438***	0.425***	0.979***	0.980***
	(5.21)	(2.86)	(3.83)	(4.57)	(6.90)
Fixedassettotoal	0.256***	0.068**	0.067***	0.139***	-0.019
	(2.60)	(2.22)	(2.88)	(3.36)	(-0.66)
Callable	1.218***	0.275***	0.183***	0.541***	0.218***
	(16.88)	(12.04)	(13.10)	(17.06)	(10.24)
Putable	-1.263***	-0.177	-0.069	-0.400*	-0.617***
	(-3.10)	(-0.93)	(-1.33)	(-1.75)	(-5.83)
Seniority	-0.439***	-0.148***	-0.311***	0.044	-0.025
	(-2.95)	(-3.34)	(-9.25)	(0.78)	(-0.68)
Bond size	0.093***	0.045***	0.045***	0.013	-0.011
	(3.02)	(4.83)	(7.58)	(0.97)	(-1.27)
Duration	-0.015***	-0.005***	-0.004***	-0.004***	-0.003***
	(-7.07)	(-7.08)	(-10.67)	(-3.55)	(-4.72)
D(Baarating)	0.179***	-0.052***	-0.108***	0.098***	0.241***
	(3.76)	(-3.44)	(-13.97)	(4.27)	(13.79)
D(Belowbaadummy)	1.620***	0.338***	0.435***	0.473***	0.373***
	(17.74)	(12.14)	(21.34)	(12.94)	(14.63)
Observations	8006	8006	8006	8006	8006
R^2	0.372	0.432	0.423	0.245	0.341
Year FE	Yes	Yes	Yes	Yes	Yes

Panel B: Loan Covenant

	(1) Financial	(2) Performance	(3) Capital	(4) Investment	(5) Dividend
Passive	0.581**	-0.359	0.830***	0.110	0.524***
	(2.29)	(-1.30)	(5.36)	(0.99)	(3.16)
Active	0.561***	1.087***	-0.325***	-0.201***	0.303***
	(4.94)	(9.32)	(-5.02)	(-3.79)	(4.87)
Logsale	-0.137***	-0.119***	-0.002	-0.015***	-0.057***
	(-15.58)	(-13.24)	(-0.35)	(-4.05)	(-11.74)
Debttoasset	0.000	0.000**	-0.000***	0.000	0.000***
	(1.01)	(2.04)	(-4.47)	(1.32)	(4.55)
MTB	-0.017**	0.015	-0.021***	-0.011***	-0.016***
	(-2.35)	(1.54)	(-2.89)	(-2.76)	(-3.90)
Short term debt	0.000***	0.000**	-0.000	0.000	0.000
	(2.59)	(2.24)	(-0.19)	(0.28)	(1.33)
Ebittoasset	0.000***	0.000***	-0.000***	-0.000***	0.000***
	(5.79)	(15.51)	(-11.95)	(-5.92)	(12.87)
Fixedassettotoal	0.000***	0.000	0.000***	-0.000***	-0.000***
	(11.49)	(0.63)	(24.48)	(-7.51)	(-15.40)
Loan size	-0.030***	-0.010	0.025***	-0.045***	-0.011*
	(-3.01)	(-1.00)	(3.88)	(-10.20)	(-1.95)
Duration	0.045***	0.094***	-0.049***	-0.000	0.018***
	(5.13)	(10.36)	(-9.23)	(-0.08)	(4.17)
Observations	8483	8483	8483	8483	8483
R^2	0.235	0.185	0.116	0.184	0.235
Loantype FE	No	No	No	No	No
Year FE	Yes	Yes	Yes	Yes	Yes
Loan purpose FE	Yes	Yes	Yes	Yes	Yes

Passive Institutional Ownership and Debt Contracting:

Evidence from Private and Public Debt Markets.

Internet Appendix: Additional Tables

Oct 2023.

Table A1: Sample construction

This table describes the sample selection process for our analysis. We detail the sample size following various selection criteria, arriving with the final sample firms.

Sample Selection

	Observations	Firms
Russell Index data (1998-2020)	65979	9208
Merged with CRSP and Compustat	65780	9177
Merged with S12 Ownership Data	56373	7626
Merged with FISD - **Bond**	9343	1855
Merged with Dealscan - **Loan**	15129	2446
Bond- Within +/- 500 companies around the cut-off	2265	928
Bond- Within +/- 250 companies around the cut-off	1042	546
Loan- Within +/- 500 companies around the cut-off	3192	1179
Loan- Within +/- 250 companies around the cut-off	1644	775

Table A2: Passive Ownership and Bond Covenants (Granular Covenant Breakdown)

This table reports the 2nd stage regression of an instrumental variable regression where passive ownership is instrumented by membership of the Russell 2000 index. I report the effect of passive ownership on granular covenant types within the broad categories of Investment Restriction, Dividend, Subsequent Financing, and Event Related Covenants in Panel A, B, C, and D respectively. In column 1, the dependent variable is Total covenant, in the subsequent columns, the dependent variable is subcategories of total covenant. In all regressions, I control for a third polynomial of market cap (at the end of May), float-adjusted market cap at the end of June, and the following banding policy controls: D(Banded), an indicator for having an end-of-May market cap sufficiently close to the cutoff such that the firm does not switch indexes, Russell2000(i,t-1), an indicator whether the firm was in the Russell 2000 index at the end of previous year May, and their interaction. I use a bandwidth of 250 around the cut-off. i.e. The regression includes the smallest 250 stocks in Russell 1000 and the largest 250 stocks in Russell 2000. I run firm-bond level regressions using data from 1999 to 2020. I use robust standard errors and report t-statistics below the coefficients in parenthesis. ***, **, * indicate significance at the 1%, 5% and 10% level.

Panel A: Investment Restriction

	(1) Investment	(2) Indirect Investment	(3) Merger Restr.	(4) Stock Sale Restr.	(5) Direct Investment Restr.	(6) Other Investment Restr	(7) Secured
Passive	-0.232**	-0.022	-0.091**	-0.026	-0.102**	0.038	-0.009
	(-1.96)	(-0.94)	(-2.33)	(-1.27)	(-2.12)	(0.99)	(-0.71)
Float-adjusted market cap	0.716	0.096	0.479***	0.072	0.270	-0.165	0.004
	(1.41)	(0.96)	(2.83)	(0.83)	(1.28)	(-0.99)	(0.07)
D(Banded)	0.075	-0.043	0.116	0.016	0.079	-0.050	-0.041*
	(0.35)	(-1.23)	(1.36)	(0.83)	(0.94)	(-0.82)	(-1.86)
D(lag Russell 2000)	0.812***	0.069	0.201*	0.067	0.242*	-0.050	0.012
	(2.63)	(1.12)	(1.89)	(1.35)	(1.95)	(-0.51)	(0.30)
D(lag Russell 2000)*D(Banded)	-0.204	0.120	-0.288**	-0.028	-0.027	0.034	0.039
	(-0.55)	(1.63)	(-2.21)	(-0.87)	(-0.19)	(0.35)	(1.08)
Observations	811	811	811	811	811	811	811
R^2	.	.	.	.	.	0.274	0.067
Bandwidth	250	250	250	250	250	250	250
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3	3	3	3

Panel B: Dividend Restriction

	(1) Dividend	(2) Dividend Payment Restr.	(3) Other payment Restr.
Passive	-0.178*	-0.101**	-0.068
	(-1.96)	(-2.11)	(-1.51)
Float-adjusted market cap	0.420	0.264	0.132
	(1.05)	(1.25)	(0.66)
D(Banded)	0.236	0.094	0.092
	(1.61)	(1.16)	(1.25)
D(lag Russell 2000)	0.586**	0.313**	0.200*
	(2.54)	(2.51)	(1.77)
D(lag Russell 2000)*D(Banded)	-0.220	-0.096	-0.052
	(-0.90)	(-0.73)	(-0.42)
Observations	811	811	811
R^2	.	.	.
Bandwidth	250	250	250
Year FE	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3

Panel C: Subsequent Financing Restriction

	(1) Subsequent Financing	(2) Subordinate Debt Issuance	(3) Sale and Lease Obligation Restr.	(4) Debt Priority Restr.	(5) Stock Issuance Restr.
Passive	-0.304**	-0.081	-0.089**	-0.032	-0.028
	(-1.99)	(-1.53)	(-2.32)	(-0.64)	(-0.68)
Float-adjusted market cap	0.998	0.327	0.451***	0.011	0.041
	(1.48)	(1.41)	(2.72)	(0.05)	(0.23)
D(Banded)	0.162	0.009	0.045	0.018	0.139**
	(0.59)	(0.10)	(0.55)	(0.24)	(2.26)
D(lag Russell 2000)	0.918**	-0.023	0.136	0.145	0.209**
	(2.29)	(-0.18)	(1.31)	(1.13)	(1.97)
D(lag Russell 2000)*D(Banded)	-0.551	-0.093	-0.194	0.058	-0.269***
	(-1.28)	(-0.68)	(-1.53)	(0.45)	(-2.79)
Observations	811	811	811	811	811
R^2	.	.	.	0.031	0.069
Bandwidth	250	250	250	250	250
Year FE	Yes	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3	3

Panel D: Event Related Restriction

	(1) Total Event Related	(2) Default Related	(3) Change in Control Poison Put	(4) Other Events
Passive	-0.093	-0.095**	0.011	-0.005
	(-1.09)	(-2.02)	(0.23)	(-0.42)
Float-adjusted market cap	0.256	0.478**	-0.139	0.012
	(0.69)	(2.33)	(-0.69)	(0.25)
D(Banded)	-0.043	0.064	-0.073	0.010
	(-0.29)	(0.80)	(-1.00)	(0.67)
D(lag Russell 2000)	0.310	0.197	-0.195	0.031
	(1.45)	(1.59)	(-1.62)	(0.91)
D(lag Russell 2000)*D(Banded)	-0.097	-0.004	0.030	-0.034
	(-0.43)	(-0.03)	(0.25)	(-1.20)
Observations	811	811	811	811
R^2	0.029	.	0.066	0.027
Bandwidth	250	250	250	250
Year FE	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3

Table A3: Robustness Test III (Firm-year level Regression)

This table reports the 2nd stage regression of an instrumental variable regression where passive ownership is instrumented by membership of the Russell 2000 index using a bandwidth of 250. i.e., The regression includes the smallest 250 stocks in Russell 1000 and the largest 250 stocks in Russell 2000. In Panel A (Panel B), I report the effect of passive ownership on Bonds covenants (Loans covenants), In columns 1, the dependent variable is Total covenant, in the subsequent columns, the dependent variable is subcategories of total covenant. In all regressions, I control for a third polynomial of market cap (at the end of May), float-adjusted market cap at the end of June, and the following banding policy controls: D(Banded), an indicator for having an end-of-May market cap sufficiently close to the cutoff such that the firm not switch indexes, Russell2000(i,t-1), an indicator whether the firm was in the Russell 2000 index at the end of previous year May, and their interaction. I run firm-year level regressions using data from 1999 to 2020. I use robust standard errors and report t-statistics below the coefficients in parenthesis. ***, **, * indicate significance at the 1%, 5% and 10% level.

Panel A: Bond Covenant

	(1) Total Restriction	(2) Investment	(3) Dividend	(4) Subsequent Financing	(5) Event-Related
Passive	-0.895**	-0.270**	-0.214**	-0.319*	-0.092
	(-2.04)	(-2.02)	(-2.12)	(-1.90)	(-1.01)
Float-adjusted market cap	2.767	0.894	0.570	1.028	0.275
	(1.47)	(1.60)	(1.32)	(1.43)	(0.71)
D(Banded)	-0.218	-0.056	0.061	-0.113	-0.110
	(-0.25)	(-0.21)	(0.32)	(-0.34)	(-0.65)
D(lag Russell 2000)	2.032**	0.696**	0.505**	0.647*	0.184
	(2.06)	(2.27)	(2.31)	(1.72)	(0.94)
D(lag Russell 2000)*D(Banded)	-0.052	0.030	0.056	-0.124	-0.014
	(-0.04)	(0.07)	(0.19)	(-0.25)	(-0.06)
Observations	667	667	667	667	667
R^2	.	.	.	.	0.015
Bandwidth	250	250	250	250	250
Year FE	Yes	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3	3

Panel B: Loan Covenant

	(1) Financial	(2) Performance	(3) Capital	(4) Investment	(5) Dividend
Passive	-0.072	-0.102	0.047	-0.017	-0.014
	(-0.60)	(-1.01)	(0.94)	(-0.48)	(-0.26)
Float-adjusted market cap	-0.012	0.103	-0.120	0.005	-0.047
	(-0.02)	(0.25)	(-0.60)	(0.04)	(-0.22)
D(Banded)	-0.201	-0.232*	0.047	-0.016	0.087
	(-1.31)	(-1.68)	(0.66)	(-0.43)	(1.23)
D(lag Russell 2000)	-0.097	0.091	-0.225**	0.036	0.087
	(-0.35)	(0.40)	(-2.03)	(0.45)	(0.71)
D(lag Russell 2000)*D(Banded)	0.282	0.190	0.038	0.054	-0.140
	(1.29)	(1.00)	(0.41)	(0.98)	(-1.39)
Observations	1468	1468	1468	1468	1468
R^2	0.015	.	0.043	0.030	0.078
Bandwidth	250	250	250	250	250
Year FE	Yes	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3	3

Table A4: Panel Regression-The effect of blockholding by investors owning no less than 5% on Bonds covenant

This table reports the result from the panel regression using all observations after matching bond data with F13 data. Institutional ownership is classified using Bushee (2001) classification and each is defined as the percentage of total shares owned by institutional blockholders, who hold no less than 5% of total shares outstanding. I run firm-bond level regressions using data from 1999 to 2020. Panel A shows the result for total covenants using 4 different models. Panel B shows the result for different bond covenants using the 2nd model from Panel A. I use robust standard errors and report t-statistics below the coefficients in parenthesis. ***, **, * indicate significance at the 1%, 5% and 10% level. This table replicates and extends Table 3 from Zhang et al (2018). I replicate the table using our sample period 1999-2020 and extend the result by showing the coefficient for different groups of institutional investors.

Panel A: Total Covenants

	Total Restriction		Total Restriction		Total Restriction		Total Restriction	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total IO	0.864***		0.516**		1.400***		1.383***	
	(3.78)		(2.40)		(6.12)		(6.04)	
Quasi-Indexers		2.099***		1.638***		1.109***		1.094***
		(6.90)		(5.73)		(3.82)		(3.76)
Transient		3.459***		2.477***		2.741***		2.776***
		(4.31)		(3.32)		(3.57)		(3.61)
Dedicated		-1.563***		-1.637***		1.830***		1.785***
		(-5.04)		(-5.53)		(4.17)		(4.07)
Logsale	-0.647***	-0.593***	-0.488***	-0.444***	-0.405***	-0.405***	-0.404***	-0.405***
	(-24.19)	(-21.56)	(-18.88)	(-16.74)	(-15.03)	(-14.98)	(-15.01)	(-14.97)
Debttoasset	3.517***	3.546***	1.833***	1.901***	1.895***	1.848***	1.906***	1.858***
	(13.27)	(13.27)	(6.88)	(7.09)	(7.22)	(7.01)	(7.26)	(7.05)
MTB	-0.012	0.032	-0.037	0.003	0.074**	0.071**	0.070**	0.068**
	(-0.36)	(0.90)	(-1.11)	(0.10)	(2.21)	(2.16)	(2.11)	(2.06)
Short term debt	-4.905***	-4.899***	-3.104***	-3.144***	-3.051***	-2.975***	-3.066***	-2.990***
	(-12.96)	(-12.94)	(-8.27)	(-8.36)	(-8.10)	(-7.86)	(-8.14)	(-7.90)
Ebittoasset	4.090***	3.688***	4.710***	4.345***	3.652***	3.647***	3.665***	3.661***
	(8.59)	(7.70)	(9.94)	(9.18)	(7.82)	(7.82)	(7.83)	(7.83)
Fixedassettotoal	0.217**	0.255**	0.320***	0.350***	0.249***	0.255***	0.243***	0.249***
	(2.09)	(2.47)	(3.28)	(3.61)	(2.65)	(2.72)	(2.59)	(2.67)
creditpremium	-0.286***	-0.363***	-0.256***	-0.323***	0.110	0.106		
	(-5.09)	(-6.54)	(-4.71)	(-5.97)	(1.24)	(1.19)		
Observations	9112	9112	9112	9112	9112	9112	9123	9123
R^2	0.286	0.295	0.344	0.351	0.404	0.405	0.402	0.402
Year FE	No	No	No	No	No	No	Yes	Yes

Panel B: Bond Covenant Breakdown

	(1) Investment	(2) Dividend	(3) Subsequent Financing	(4) Event-Related
Quasi-Indexers	0.434***	0.003	0.194*	1.008***
	(4.43)	(0.04)	(1.74)	(12.59)
Transient	0.393	1.024***	0.393	0.668***
	(1.53)	(5.70)	(1.38)	(3.16)
Dedicated	-1.741***	-0.342***	-0.496***	0.943***
	(-16.50)	(-4.95)	(-4.15)	(10.62)
Logsale	-0.108***	-0.097***	-0.149***	-0.091***
	(-12.15)	(-16.22)	(-14.03)	(-12.85)
Debttoasset	0.546***	0.562***	0.486***	0.306***
	(6.11)	(8.64)	(4.64)	(4.55)
MTB	-0.021*	0.002	-0.012	0.035***
	(-1.79)	(0.22)	(-0.91)	(3.58)
Short term debt	-0.941***	-0.456***	-0.434***	-1.313***
	(-7.74)	(-5.66)	(-2.86)	(-12.88)
Ebittoasset	0.962***	0.564***	1.620***	1.199***
	(5.88)	(5.18)	(9.19)	(10.25)
Fixedassettotoal	0.082**	0.067***	0.279***	-0.078***
	(2.46)	(2.97)	(7.09)	(-2.76)
Callable	0.247***	0.145***	0.455***	0.347***
	(10.35)	(10.54)	(14.89)	(16.17)
Putable	-0.104	-0.074	-0.555**	-0.495***
	(-0.73)	(-1.44)	(-2.52)	(-4.03)
Seniority	-0.078*	-0.341***	0.006	0.065**
	(-1.86)	(-10.97)	(0.12)	(2.36)
Bond size	0.053***	0.040***	-0.003	0.046***
	(5.36)	(6.76)	(-0.25)	(5.43)
Duration	-0.006***	-0.004***	-0.005***	-0.003***
	(-7.55)	(-12.38)	(-4.83)	(-4.50)
investmentgrade	-0.454***	-0.552***	-0.438***	-0.277***
	(-18.46)	(-30.17)	(-15.47)	(-13.81)
Observations	9112	9112	9112	9112
R^2	0.246	0.444	0.218	0.226
Year FE	No	No	No	No

Table A5: Panel Regression-The effect of overall ownership by investors on Bonds covenant

This table reports the result from the panel regression using all observations after matching bond data with F13 data. Institutional ownership is classified using Bushee (2001) classification and each is defined as the total percentage of total shares owned by each institutional investor (including non-blockholders). I run firm-bond level regressions using data from 1999 to 2020. Panel A shows the result for total covenants using 4 different models. Panel B shows the result for different bond covenants using the 2nd model from Panel A. I use robust standard errors and report t-statistics below the coefficients in parenthesis. ***, **, * indicate significance at the 1%, 5% and 10% level. This table extends Table 3 from Zhang et al (2018). I replicate the table using the sample period 1999-2020 and extend the result by showing the coefficient for different groups of institutional investors using overall ownership (including non-blockholders).

Panel A: Total Covenants

	Total Restriction		Total Restriction		Total Restriction		Total Restriction	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total IO	1.057***		0.980***		0.830***		0.827***	
	(12.50)		(12.23)		(10.47)		(10.42)	
Quasi-Indexers		0.643***		0.750***		0.156		0.157
		(5.76)		(7.05)		(1.19)		(1.20)
Transient		3.178***		2.557***		2.915***		2.899***
		(13.17)		(11.32)		(10.06)		(9.99)
Dedicated		-2.035***		-1.824***		-0.239		-0.238
		(-7.03)		(-6.54)		(-0.64)		(-0.64)
Logsale	-0.651***	-0.587***	-0.497***	-0.452***	-0.448***	-0.426***	-0.447***	-0.425***
	(-25.25)	(-22.44)	(-20.01)	(-17.97)	(-17.78)	(-16.87)	(-17.74)	(-16.84)
Debttoasset	3.379***	3.348***	1.791***	1.875***	1.889***	1.837***	1.896***	1.843***
	(13.21)	(13.04)	(6.95)	(7.23)	(7.41)	(7.18)	(7.43)	(7.20)
MTB	0.009	0.072**	-0.016	0.042	0.065*	0.077**	0.062*	0.074**
	(0.26)	(2.01)	(-0.46)	(1.21)	(1.94)	(2.30)	(1.85)	(2.21)
Short term debt	-4.926***	-4.991***	-3.204***	-3.344***	-3.462***	-3.464***	-3.469***	-3.470***
	(-12.85)	(-13.05)	(-8.41)	(-8.77)	(-8.96)	(-8.88)	(-8.99)	(-8.91)
Ebittoasset	4.362***	3.989***	4.842***	4.470***	3.782***	3.757***	3.799***	3.773***
	(9.23)	(8.53)	(10.25)	(9.59)	(8.19)	(8.13)	(8.20)	(8.14)
Fixedassettotoal	0.330***	0.383***	0.442***	0.480***	0.362***	0.420***	0.358***	0.416***
	(3.38)	(3.97)	(4.81)	(5.26)	(4.09)	(4.75)	(4.04)	(4.70)
creditpremium	-0.204***	-0.267***	-0.181***	-0.237***	0.139*	0.147*		
	(-3.88)	(-5.10)	(-3.54)	(-4.64)	(1.67)	(1.75)		
Observations	9994	9994	9994	9994	9994	9994	10005	10005
R^2	0.299	0.314	0.349	0.359	0.402	0.408	0.400	0.406
Year FE	No	No	No	No	No	No	Yes	Yes

Panel B: Bond Covenant Breakdown

	(1) Investment	(2) Dividend	(3) Subsequent Financing	(4) Event-Related
Quasi-Indexers	0.312***	-0.157***	0.130***	0.465***
	(8.34)	(-6.47)	(2.91)	(14.83)
Transient	0.585***	0.571***	1.101***	0.300***
	(7.86)	(10.35)	(12.27)	(4.84)
Dedicated	-1.437***	-0.292***	0.007	-0.102
	(-14.56)	(-4.64)	(0.07)	(-1.21)
Logsale	-0.118***	-0.093***	-0.142***	-0.099***
	(-13.88)	(-16.40)	(-13.99)	(-14.85)
Debttoasset	0.567***	0.453***	0.479***	0.376***
	(6.57)	(7.22)	(4.68)	(5.75)
MTB	-0.007	-0.005	0.000	0.054***
	(-0.56)	(-0.70)	(0.03)	(5.49)
Short term debt	-0.848***	-0.452***	-0.538***	-1.506***
	(-6.95)	(-5.59)	(-3.48)	(-14.74)
Ebittoasset	1.089***	0.571***	1.764***	1.046***
	(6.76)	(5.39)	(9.87)	(9.71)
Fixedassettotoal	0.164***	0.068***	0.332***	-0.084***
	(5.10)	(3.18)	(8.94)	(-3.17)
Callable	0.225***	0.126***	0.455***	0.327***
	(10.11)	(10.47)	(15.91)	(16.84)
Putable	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)
Seniority	-0.032	-0.290***	0.080	0.115***
	(-0.83)	(-10.39)	(1.64)	(4.50)
Bond size	0.034***	0.042***	-0.029**	0.043***
	(3.65)	(7.64)	(-2.34)	(5.24)
Duration	-0.005***	-0.004***	-0.004***	-0.004***
	(-6.66)	(-11.74)	(-4.10)	(-5.51)
investmentgrade	-0.411***	-0.496***	-0.358***	-0.269***
	(-18.12)	(-29.80)	(-13.56)	(-14.32)
Observations	9994	9994	9994	9994
R^2	0.244	0.416	0.242	0.230
Year FE	No	No	No	No

Table A6: Panel Regression-The effect of overall ownership by investors on Bonds covenant (Active Vs Passive)

This table reports the result from the panel regression using all observations after matching bond data with S12 data. Institutional ownership as either Active or Passive. Each is defined as the total percentage of total shares owned by each institutional investor (including non-blockholders). I run firm-bond level regressions using data from 1999 to 2020. Panel A shows the result for total covenants using 4 different models. Panel B shows the result for different bond covenants using the 2nd model from Panel A. I use robust standard errors and report t-statistics below the coefficients in parenthesis. ***, **, * indicate significance at the 1%, 5% and 10% level. This table extends Table 10 from Zhang et al (2018). I replicate the table using sample period 1999-2020 and extend the result by showing the coefficient for different groups of institutional investors using overall ownership (including non-blockholders).

Panel A: Total Covenants

	Total Restriction		Total Restriction		Total Restriction		Total Restriction	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total IO	0.189		-0.069		1.133***		1.098***	
	(0.69)		(-0.27)		(3.07)		(2.98)	
Passive		-3.242***		-3.146***		2.334**		2.179*
		(-7.11)		(-7.22)		(1.97)		(1.83)
Active		2.347***		1.873***		0.889**		0.877**
		(5.93)		(4.90)		(2.30)		(2.26)
Logsale	-0.592***	-0.573***	-0.444***	-0.430***	-0.371***	-0.366***	-0.370***	-0.366***
	(-20.52)	(-19.89)	(-15.94)	(-15.41)	(-12.98)	(-12.40)	(-12.96)	(-12.38)
Debttoasset	3.490***	3.595***	2.137***	2.249***	2.229***	2.206***	2.253***	2.233***
	(12.12)	(12.44)	(7.34)	(7.70)	(7.73)	(7.61)	(7.81)	(7.70)
MTB	-0.038	-0.018	-0.059	-0.041	0.056	0.059*	0.056	0.059*
	(-1.07)	(-0.50)	(-1.61)	(-1.10)	(1.62)	(1.71)	(1.62)	(1.71)
Short term debt	-5.386***	-5.457***	-4.108***	-4.189***	-3.988***	-3.986***	-4.033***	-4.031***
	(-13.25)	(-13.49)	(-10.00)	(-10.24)	(-9.82)	(-9.81)	(-9.93)	(-9.91)
Ebittoasset	3.229***	3.056***	3.711***	3.549***	2.839***	2.831***	2.830***	2.822***
	(5.39)	(5.07)	(5.88)	(5.59)	(5.23)	(5.23)	(5.20)	(5.21)
Fixedassettotoal	0.265**	0.271**	0.308***	0.312***	0.274***	0.270***	0.260***	0.256***
	(2.44)	(2.52)	(2.99)	(3.06)	(2.78)	(2.74)	(2.64)	(2.60)
creditpremium	-0.183***	-0.251***	-0.179***	-0.240***	0.047	0.046		
	(-3.17)	(-4.34)	(-3.20)	(-4.28)	(0.52)	(0.51)		
Observations	7996	7996	7996	7996	7996	7996	8006	8006
R^2	0.258	0.265	0.305	0.310	0.374	0.374	0.371	0.372
Year FE	No	No	No	No	No	No	Yes	Yes

Panel B: Bond Covenant Breakdown

	(1) Investment	(2) Dividend	(3) Subsequent Financing	(4) Event-Related
Passive	-2.059***	-1.112***	-2.602***	2.626***
	(-14.27)	(-10.95)	(-14.59)	(18.23)
Active	0.429***	-0.312***	0.226	1.530***
	(3.23)	(-3.72)	(1.46)	(14.76)
Logsale	-0.112***	-0.085***	-0.120***	-0.113***
	(-11.94)	(-14.09)	(-10.69)	(-15.10)
Debttoasset	0.501***	0.549***	0.660***	0.540***
	(5.19)	(7.91)	(5.87)	(7.33)
MTB	-0.055***	-0.005	-0.002	0.021*
	(-4.13)	(-0.73)	(-0.16)	(1.88)
Short term debt	-1.083***	-0.549***	-1.055***	-1.503***
	(-8.34)	(-6.38)	(-6.35)	(-13.63)
Ebittoasset	0.924***	0.433***	1.012***	1.180***
	(4.11)	(3.95)	(4.81)	(6.75)
Fixedassettotoal	0.061*	0.060***	0.218***	-0.028
	(1.72)	(2.61)	(5.20)	(-0.93)
Callable	0.231***	0.164***	0.505***	0.260***
	(8.86)	(11.88)	(15.67)	(11.63)
Putable	-0.056	-0.091	-0.419*	-0.581***
	(-0.36)	(-1.64)	(-1.74)	(-4.99)
Seniority	-0.066	-0.318***	0.036	0.054
	(-1.44)	(-9.28)	(0.61)	(1.62)
Bond size	0.048***	0.045***	-0.019	0.012
	(4.58)	(7.53)	(-1.32)	(1.46)
Duration	-0.004***	-0.004***	-0.004***	-0.003***
	(-5.61)	(-11.05)	(-3.43)	(-4.22)
investmentgrade	-0.386***	-0.512***	-0.376***	-0.212***
	(-14.80)	(-26.86)	(-12.47)	(-9.77)
Observations	7996	7996	7996	7996
R^2	0.198	0.413	0.203	0.265
Year FE	No	No	No	No

Table A7: Robustness Test IV (Firm-bond level Regression)

This table reports the 2nd stage regression of an instrumental variable regression where passive ownership is instrumented by membership of the Russell 2000 index using a bandwidth of 250. i.e., The regression includes the smallest 250 stocks in Russell 1000 and the largest 250 stocks in Russell 2000. In Panel A (Panel B), I report the effect of passive ownership on *levels of* (rather than changes in) Bonds covenants (Loans covenants), In columns 1, the dependent variable is Total covenant, in the subsequent columns, the dependent variable is subcategories of total covenant. In all regressions, I control for a third polynomial of market cap (at the end of May), float-adjusted market cap at the end of June, and the following banding policy controls: D(Banded), an indicator for having an end-of-May market cap sufficiently close to the cutoff such that the firm not switch indexes, Russell2000(i,t-1), an indicator whether the firm was in the Russell 2000 index at the end of previous year May, and their interaction. I run bond-level regressions using data from 1999 to 2020. I use robust standard errors and report t-statistics below the coefficients in parenthesis. ***, **, * indicate significance at the 1%, 5% and 10% level.

Panel A: Bond Covenant

	(1) Total Restriction	(2) Investment	(3) Dividend	(4) Subsequent Financing	(5) Event-Related
Passive	-0.701**	-0.212**	-0.169*	-0.230*	-0.089
	(-2.01)	(-2.01)	(-1.89)	(-1.77)	(-1.23)
Float-adjusted market cap	2.334	0.757	0.396	0.831	0.351
	(1.50)	(1.63)	(1.00)	(1.44)	(1.10)
D(Banded)	0.476	0.077	0.187	0.212	0.000
	(0.76)	(0.39)	(1.27)	(0.90)	(0.00)
D(lag Russell 2000)	1.554*	0.541*	0.513**	0.467	0.034
	(1.71)	(1.92)	(2.25)	(1.37)	(0.18)
D(lag Russell 2000)*D(Banded)	-0.803	-0.150	-0.148	-0.498	-0.007
	(-0.79)	(-0.45)	(-0.61)	(-1.33)	(-0.04)
Observations	811	811	811	811	811
R^2	.	.	.	.	.
Bandwidth	250	250	250	250	250
Year FE	Yes	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3	3

Panel B: Loan Covenant

	(1) Financial (Performance+Capital)	(2) Performance	(3) Capital	(4) Investment	(5) Dividend
Passive	-0.017	-0.045	-0.003	0.030	0.042
	(-0.22)	(-0.58)	(-0.06)	(0.89)	(0.93)
Float-adjusted market cap	-0.180	-0.160	0.189	-0.209	-0.264
	(-0.55)	(-0.50)	(0.97)	(-1.51)	(-1.45)
D(Banded)	-0.053	-0.081	0.033	-0.005	0.085
	(-0.59)	(-0.82)	(0.48)	(-0.14)	(1.18)
D(lag Russell 2000)	-0.088	-0.065	0.028	-0.052	0.001
	(-0.49)	(-0.37)	(0.25)	(-0.66)	(0.01)
D(lag Russell 2000)*D(Banded)	0.185	0.212	-0.089	0.063	-0.084
	(1.32)	(1.48)	(-0.93)	(1.11)	(-0.84)
Observations	1641	1641	1641	1641	1641
R^2	0.069	0.035	0.035	.	.
Bandwidth	250	250	250	250	250
Year FE	Yes	Yes	Yes	Yes	Yes
Mkt Cap Polynomial	3	3	3	3	3

Table A8: Robustness test- Fuzzy RDD (Firm-bond level Regression)

This table reports the 2nd stage regression of an instrumental variable regression where membership of the Russell 2000 index is instrumented by an indicator variable representing whether a firm is below or above the cut-off point using a bandwidth of 500. i.e., The regression includes the smallest 500 stocks in Russell 1000 and the largest 500 stocks in Russell 2000. In Panel A (Panel B), I report the effect of passive ownership on Bonds covenants, In column 1, the dependent variable is Total covenant, in the subsequent columns, the dependent variable is subcategories of total covenant. In all regressions. I restrict the sample to 1999-2006 to avoid the banding period where we can no longer apply the fuzzy RDD methodology. The coefficient of interest is Russell 2000. I use robust standard errors and report t-statistics below the coefficients in parenthesis. ***, **, * indicate significance at the 1%, 5% and 10% level.

Bond Covenant

	(1) Total Restriction	(2) Investment	(3) Dividend	(4) Subsequent Financing	(5) Event-Related
Russell 2000	-0.972*	-0.352**	-0.019	-0.374*	-0.227*
	(-1.77)	(-2.24)	(-0.15)	(-1.80)	(-1.81)
Russell 2000 X (Rank-1000)	-0.000	0.000	-0.000	0.000	-0.000
	(-0.07)	(0.10)	(-0.34)	(0.21)	(-0.46)
(Rank-1000)	0.003***	0.001***	0.001**	0.001**	0.001***
	(3.22)	(3.45)	(2.30)	(2.27)	(3.65)
Observations	967	967	967	967	967
R^2	0.050	0.062	0.047	0.038	0.047
Bandwidth	500	500	500	500	500
Year FE	Yes	Yes	Yes	Yes	Yes