Institutional Debtholder Governance

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Abstract

Using data on the universe of U.S. based mutual funds, we find that two out of five fund families hold corporate bonds of firms in which they also own an equity stake. We show that the greater the fraction of debt a fund family holds in a given firm, the greater its propensity to vote in line with the interests of firm debtholders at shareholder meetings, even when against Institutional Shareholder Services (ISS) recommendation. Voting has direct policy consequences as firms that receive more votes in favor of creditors make corporate decisions more in line with the interests of debtholders.

I.   Introduction

Institutional investors own more than two thirds of equity traded on the U.S. stock market (Pensions and Investments (2017)) and play an important role in the governance of public corporations. Besides trading their stakes, shareholders can influence firms via a combination of public and private engagement, often labeled as shareholder activism. Public engagement involves submitting a shareholder proposal, initiating a proxy fight, starting a "just say no" campaign and is critically centered on the power to vote at shareholder meetings. Private engagement instead relies on private meetings with directors and executives to persuade the management to act in shareholders' interests, often using public engagement or share divestment as a threat.

Institutional investors also own a large fraction of U.S. corporate bonds. Although there is extensive evidence on the role of institutional investors as

shareholders, we know very little about the impact of their debt holdings on their behavior. In this paper, we fill this knowledge gap and look at the effect of holding bonds as well as equity on institutional investors' engagement with a corporation.

To identify the potential conflict of interest between debt and equity, we look at companies that are close to financial distress and thus face a wedge between the interests of shareholders and debtholders. In doing so, we follow the approach adopted by Becker and Strömberg (2012), who find that debt-equity conflicts can be affected by changes in managerial fiduciary duties and that the resulting changes in corporate behavior should only be visible for firms in financial distress. Focusing on the voting behavior of mutual fund families, if a fund family holds none of the corporate debt of a firm, we would expect its funds to vote so as to maximize the value of their equity stake. When the family debt fraction is positive, we would expect its funds to pay some consideration to the value of their debt stake, and therefore to vote considering the consequences for the value of both their equity and debt stakes in the firm. So, our first hypothesis is that a fund management company will be more likely to vote in the interests of debtholders in firms in which they own relatively more debt.

To test whether debt holding by fund families affects the way they vote on shareholder proposals, we focus on five corporate decisions where debt and equity have conflicted interests: dividend policy; equity issues and share repurchases; anti-takeover provisions; executive compensation; and restructuring activities such as assets sales, asset acquisitions, or spinoffs. For each of these corporate decisions, there is evidence in the literature that the interests of shareholders and debtholders may be in conflict with each other, particularly when firms are close to financial distress.

To examine whether voting affects firm policy, we relate the extent to which institutional investors vote in favor of creditors to five corporate decisions namely capital expenditures; research and development; seasoned equity offerings; diversifying acquisitions; cash dividends; and share repurchases. Our second hypothesis is that firms observing more procreditor votes will attach greater importance to creditors' interests, leading them to act more in the interests of debtholders than shareholders.

Our data set covers the universe of U.S. fund families investing in U.S. listed firms over the 2009–2013 period and has 12,327 firm-year observations containing 571 fund families. It is obtained by combining three data sets: the Morningstar Direct database, which contains data on the holdings of both debt and equity of all funds sold in the U.S.; the data on fund voting from ISS; and the balance sheet information on all publicly traded firms with a positive level of debt from Compustat.

In the analysis of the voting behavior of mutual funds, the dependent variable is an indicator to whether the mutual fund votes in alignment with creditors on a specific proposal. The key independent variable is the fraction of debt held by the fund's family. As traditionally done, we include a number of control variables: a dummy variable that is set to 1 if ISS supports creditors for the proposal concerned, and 0 otherwise; a set of firm characteristics (log size, leverage, market-to-book ratio, and return on assets); the equity stake owned by the fund family; and the natural log of the number of funds in the fund family. We also include proposal type times year fixed effects.

The basic result shows a positive correlation between family debt fraction and the propensity to vote with creditors. However, the economic effect is small. Intuitively, there is limited conflict between debt and equity when a firm is far from financial distress: What is in the interests of creditors is likely also to be in the interests of shareholders and changes in firm policy have a very small effect on the value of debtholders' stakes. However, we would expect this conflict to be magnified close to financial distress, when corporate policies are likely to have a larger effect on the market value of debt. Therefore, we augment the analysis by including an indicator of financial distress. Our definition of distress is based on the Bharath and Shumway (2008) distance to default measure. We define distress (0,1) in this case to be 1 if the firm's default probability is at least 75% in the year concerned, and 0 otherwise. We interact the family debt fraction with the financial distress indicator and find that the interaction term is statistically significant, positive and large in magnitude.

The correlation is stronger when the vote is in alignment with management and/or the ISS recommendation but is still statistically significant even when creditors' interests are in conflict with these recommendations. As a placebo test, we also look at proposals for which we do not expect much conflict between debt and equity, such as director elections. In those instances we would not expect to find any effect of family debt fraction on voting policy. Our results confirm this prediction. Therefore, overall, the analysis of voting suggests that fund family debt holdings affect how fund families vote on these conflict proposals.

What is the relevance of the voting channel for firm policy? To understand this we follow a 2-step procedure. We first determine the total effect of joint debt-equity holdings on firm policy by relating the average debt equity fraction of institutional investors in a given firm to its policy. In the second stage, we measure the importance of the voting channel by relating the votes cast in favor of creditors on a given firm to its policy. We find that there is a significant effect of the voting channel on both firm investment and payout policy and that in terms of economic significance, the voting channel is responsible for about 20% of the link between the debt equity holdings of institutional investors in a firm and its investment policy and about 10% for payout policy.

As a note of caution, the results described so far should be interpreted as simple correlations: mutual fund families with a long position in both corporate debt and equity tend to vote more in line with the interests of debtholders rather than shareholders, compared with families with only equity positions. In an attempt to move closer to the identification of a causality link between institutional debt holdings and corporate governance, we use an instrumental variable approach and a quasi-natural experiment.

For our instrumental variable approach, we use the introduction of a new debt fund by a fund family as an instrument in our first-stage models. Opening a new debt fund is likely to be driven by the desire to satisfy market demand rather than because a fund family wants to hold more debt in a particular firm. The creation of a new debt fund mechanically increases the fraction of debt that the fund family holds. Furthermore, we show that the choice of debt securities by fund families when they introduce a new debt fund is virtually "passive" as on average of 86% of the time fund families invest in firms in which they already hold either debt or

equity. When we instrument the family debt fraction and its interaction with distress using the new debt fund indicator, we confirm our basic findings: Family debt fraction has a significant effect on the propensity to vote with creditors on proposals when firms are in financial distress.

We also use mergers between fund families for a difference-in-differences (DiD) test. For identification purposes, we use cases either in which the acquirer fund family holds no debt in the firm concerned but the target fund family does (acquirer has no debt and target has only debt) or vice versa (acquirer has only debt and target has no debt) but we exclude cases where both acquirer and target hold debt and equity in the same firm pre-merger. This allows us to identify more clearly the debt-equity position of the merged entity relative to the two initial firms resulting in a cleaner test. As these mergers are likely to be the result of strategic considerations at the fund family level, these serve as quasi-exogenous shocks to the debt equity ratio of fund families. When we take this approach, our basic results remain unchanged. While these results cannot alleviate all concerns of endogeneity, they offer some reassurance about the robustness of our findings.

We conduct several further robustness checks. First, we consider alternative measures of financial distress. Our main measure of financial distress is the distance to default. We show that the results extend to the case in which we measure financial distress using the debt rating and also to the case where we measure financial distress at the industry level, based on the Opler and Titman (1994) definition.

Second, in our main analysis we compute the fraction of corporate debt held by mutual fund families as the total value of debt held by a fund family over the total value of debt and equity held by the family. We obtain similar results if we use the number of debt funds over the total number of funds held by a mutual fund family. Third, we demonstrate that when we exclude funds that use credit default swap (CDS) contracts to hedge the credit risk of the debt securities they hold, our results are unaffected.

Our contribution is to highlight that voting may be affected by joint debt-equity holdings and it is a channel through which these holdings affect policy. This is particularly important as institutional investors commonly hold both debt and equity in the same firm. Our findings suggest that debt holdings change the way institutional investors vote and generally engage with portfolio firms and thus should not be ignored when examining the governance role of institutional investors.

While institutional joint ownership of equity in nonaligned firms has been examined by Matvos and Ostrovsky (2008) and Azar, Schmalz and Tecu (2018), there is a growing literature on the joint holdings of debt and equity of institutional investors. Most papers in this area focus on the impact of these joint holdings on target firm conduct. Chu (2018) shows that joint debt equity holdings influence payout policy while Chu, Nguyen, Wang, Wang, and Wang (2018) suggest that these joint holdings allow easier resolution of financial distress. As regards investment policy, Yang (2019) and Chava, Wang, and Zhou (2019) both show that joint holdings may have an effect on innovation and capital expenditure, respectively. Jiang, Li, and Shao (2010) examine the effect on loan interest rates when banks also hold equity in a given firm. What differentiates our paper is that we focus on the impact of these joint debt and equity holdings on voting behavior and the consequences of these votes.

The most closely related paper to ours is Bodnaruk and Rossi (2016), who look at the effect of institutional investors holding both debt and equity in merger and acquisition (M&A) targets. They examine the implications for the takeover premium, the returns that bondholders receive and the propensity of dual holders to vote in favor of the takeover bid. The scope of our paper is broader as it looks at the effects of institutional investors holding both debt and equity on voting on all types of firm policies, not just M&A decisions. Furthermore, we show that the voting channel has implications for subsequent firm conduct while Bodnaruk and Rossi do not. Therefore, it extends and complements their work.

Our paper has the following structure: Section II develops our hypotheses and reviews the related literature. In Section III we introduce our data and discuss our sample's descriptive statistics. In Section IV we present our empirical results on the effects of debt holdings on voting. Section V examines the consequences of voting for firm policy. Section VI presents our robustness tests. Section VII concludes.

II.   Hypotheses

Institutional investors that hold equity in a firm can influence its corporate policy in two ways. They can publicly engage with the target firm, initiating a proxy fight and voting for their proposals at the shareholder meetings. Alternatively, they can privately persuade the management to act in their interests, using the possibility of public engagement or the sale of their shares as a threat.

The literature on institutional investor activism seems to indicate a large heterogeneity in activity and effectiveness across investors and over time. Wahal (1996) studies 356 public engagements by 9 pension funds between 1987–1993 and shows that pension funds are successful in changing the governance structure of targeted firms but their activity is not associated with a significant short-term or long-term improvement in either stock price or accounting measures of performance. Smith (1996) studies a comprehensive set of 51 public activism targets of the California Public Employees' Retirement System (CalPERS) from 1987 to 1993 and finds more promising results: CalPERS seems to target underperforming companies and has a high success rate (72%) of adopting governance structure changes. The paper shows that shareholder wealth increases for firms that adopt/settle and decreases for firms that resist.

Carleton, Nelson, and Weisbach (1998) examine the private correspondence between the Teachers Insurance and Annuity Association of America and College Retirement Equities Fund (TIAA-CREF) and 45 firms it contacted between 1992–1996. The results indicate that TIAA-CREF reaches agreement with target companies more than 95% of the time; in more than 70% of the cases, the agreement reached without shareholders voting on the proposal (and even without shareholders knowing about TIAA-CREF involvement); and 87% of the targets subsequently took actions to comply with these agreements. A similar study for the United Kingdom by Becht, Franks, Mayer, and Rossi (2009) examines the activity of the activist fund Hermes UK Focus Fund (HUKFF), which was part of the British Telecom pension fund, over the period 1998–2004. The engagement of this fund tends to take a private rather than public form and seeks to restructure firms, focusing their activities, limiting acquisitions and capital expenditure, changing

boards, and altering financial policy. While there is no positive market reaction to public notification of HUKFF's stake, there is a substantial share price reaction to engagement outcomes of between 3–4%. As regards hedge funds, Brav, Jiang, Partnoy, and Thomas (2008) find that the announcement of hedge fund activism results in 5–7% abnormal returns during the announcement window with no subsequent reversal while Brav, Jiang, and Kim (2015) study the effects of hedge fund activism on productivity, investment, and labor policies.

The papers mentioned so far focus on the performance of very special funds. More recently, attention has shifted toward the general category of institutional investors. Aggarwal, Erel, Ferreira, and Matos (2011) show that international institutional investors are positively associated with firm-level corporate governance in a large sample of firms from 23 countries during the 2003–2008 period. They find that firms with higher institutional ownership are more likely to terminate poorly performing chief executive officers (CEOs) and exhibit improvements in valuation over time. Iliev and Lowry (2015) emphasize that there is a large heterogeneity across mutual funds and find that over a quarter of the funds rely almost entirely on ISS recommendations, while other funds place little weight on them.

We extend this literature by focusing not only on the equity holdings of institutional investors but also on their debt holdings. As a matter of fact, mutual fund companies often also hold debt in the same firms in which they hold equity. This may be through their debt only funds or their mixed funds that hold both debt and equity. What is the governance role (if any) of these debt holdings?

First consider the public channel, the voting decisions. To measure the extent to which fund families hold debt as a share of the total holdings we define FAMILY_DEBT_FRACTION as:

$$\text{(1)} \qquad \text{FAMILY\_DEBT\_FRACTION}_{i,j,t} = \frac{\text{Total value family } (i) \text{ debt holdings in firm } (j) \text{ at } (t)}{\text{Total value family } (i) \text{ debt and equity holdings in firm } (j) \text{ at } (t)}.$$

If mutual fund companies have no debt in a firm, and their family debt fraction is 0 we would expect them to vote so as to maximize the value of their equity share. However, when the family debt fraction is positive we would expect the mutual fund family to take into consideration the interests of their debt stake in the same firm and therefore to vote, thus evaluating not only the consequences for the value of their equity stake in the firm but also the consequences for their debt stake. From this we get our first hypothesis:

Hypothesis 1 (debtholder governance). The greater the family debt fraction held by a given fund management company in a given firm, the greater the tendency of that fund management company to vote according to the interests of debtholders.

Consider next the private engagement channel. If institutional investors hold only equity, we would expect them to not only vote in the interests of equity but to also push firm policy in the interests of equity through the direct communication channel. However, if institutional investors hold both a mix of debt and equity, then we would expect them to take the interests of debt into account to a greater extent when voting on firm policy and also directly communicating with firms.

Therefore we would expect there to be two channels through which joint debt equity holdings affect firm policy. The first is through the voting channel and the

second is through the private engagement channel. While we cannot observe the private communication channel, we can observe the voting channel, and therefore it is possible to test for its relative importance.

If firms observe that institutional investors vote to a greater extent in the interests of creditors then we would expect firms to respond to this by acting more in the interests of creditors as well. Therefore our second hypothesis is:

Hypothesis 2 (impact of debtholder governance). The greater the propensity of institutional investors to vote in favor of creditors on the proposals of a given firm, the more the firm will be managed in the interests of debtholders.

We expect to detect the debt governance role of institutional investors in firms close to financial distress. This is because, when a firm is in financial distress, its decisions are likely to have large effects on the value of its bonds as well as the value of its shares. So, when holding a long position in a firm in financial distress, it is worthwhile for a fund family to coordinate the voting of its equity and debt funds, and invest resources to develop their own view on the firm's strategy. Conversely, away from financial distress, bond prices are hardly affected by firms' decisions. Therefore, there is no need to coordinate the voting decisions on debt and equity funds.

III.   Data

To conduct our analysis we merge together data sets from various sources. The first data set consists of the holdings of U.S. fund families in U.S. listed firms, which allow us to calculate fund family debt fractions by all families in each firm. We gather data on the holdings of both debt and equity of all funds sold in the United States between 2009–2013 from the Morningstar Direct database, which includes not only funds that hold domestic securities but also global funds that hold a mixture of domestic and international assets.

As we wish to relate fund family debt fractions to how fund families vote, the second set of data describes how mutual funds vote. U.S. mutual fund companies have been required by law to make public how they vote on proposals at the annual meetings of U.S. companies since 2003. We obtain data on fund voting from 2009 to 2013 from ISS. As we wish to relate votes cast in favor of creditors on firms to firm investment and payout policy, we require investment and payout data at the firm level. We gather this data on all publicly traded firms alive with any outstanding debt between 2009–2013 from Compustat. We only include firms with a positive amount of debt as these are the only firms that can possibly have a positive debt fraction and therefore allow us to test our hypotheses. We also require data available from the Center for Research in Security Prices (CRSP) and Compustat to be able to calculate the firm's key financial characteristics such as market cap, Tobin's q, leverage, return on assets (ROA), and default probability using the Bharat and Shumway (2008) distance to default model.

We then match these three data sets together for the period 2009–2013 to give us a sample of 12,327 firm-year observations containing 571 fund families.[1] Table 1

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[1]Fund families have to hold equity to be able to vote on firm proposals at the annual meetings. We exclude 18 firm-year observations in which fund families do not own equity but only hold debt in the firm. Including these observations does not qualitatively change our results.

TABLE 1

Fund Family Debt Holding Statistics

Table 1 reports summary statistics for the sample of 12,327 firm-year observations during the 2009--2013 period. For all U.S. publicly traded firms in Compustat with positive leverage, we collect from Morningstar Direct the debt and equity holdings of all U.S. funds on U.S. publicly traded companies. We report the mean, median, standard deviation and lower and upper quartiles of the time-series average debt and equity holdings across mutual fund families in individual firms. All variables are defined in the Appendix.

	No. of Families	Mean	Median	Q1	Q3	Std. Dev.
Value of debt and equity holding in each firm ($millions)	571	22.9505	1.6760	0.4240	7.3525	194.9690
Debt fraction in each firm	571	0.0784	0.0000	0.0000	0.0735	0.1824
Conditional on Family Holding Both Debt and Equity in the Firm						
Value of debt and equity holding in each firm ($millions)	248	43.1757	9.1374	2.2248	28.5720	149.0736
Debt fraction in each firm	248	0.3468	0.3424	0.2419	0.4497	0.1625

reports data on the fund family debt-equity holdings mix. Of the 571 fund families in our data set, 8 families hold only debt, 315 families hold only equity, and 248 families hold both debt and equity. Conditional on fund families holding both debt and equity in a given firm, the average value of (debt and equity) holdings in each firm are $43 million and the average debt fraction held by fund families is 35%.

To test whether the debt fraction held by fund families affects the way they vote on corporate proposals we need to examine proposals where creditors and equity holders have conflicted interests. Otherwise there would be no relation between FAMILY_DEBT_FRACTION and how fund families vote. We therefore use this criterion to select proposals that we examine. We read each proposal's description to determine if the proposal is for or against the interests of creditors and categorize the proposals into five groups.

The first group consists of proposals linked with dividend and share repurchases. We would expect that any proposal to increase special dividends or share repurchases is in the interests of shareholders but is against the interests of debtholders as there is now less cash in the firm which reduces the likelihood that debtholders will be paid. Likewise any proposal to decrease dividends or share purchases is classified as being in the interests of debtholders but against the interests of equity holders. Dhillon and Johnson (1994) confirm our priors by showing that bond prices fall significantly in response to large dividend increases and rise significantly in response to large dividend decreases, while equity prices change significantly in the opposite direction.

The second group of proposals concerns equity issuance. Equity issues bring more cash into the firm, which is good for debtholders as there is more money to pay them while at the same time it dilutes the holdings of equity holders and therefore may be contrary to the interests of equity holders. Eberhart and Siddique (2002), confirming this view, find that long-term equity returns are significantly negative and long-term bond returns are significantly positive following seasoned equity offerings.

The third group of proposals concerns anti-takeover provisions. Takeovers are generally good for target shareholders. Takeovers however often involve the acquirer borrowing heavily to buy the target particularly in the case that the acquirer is a private equity company. Therefore, takeovers may be bad for debtholders.

Seen from this perspective, any proposal that seeks to introduce anti-takeover provisions will reduce the likelihood of takeovers and therefore be bad for shareholders and good for creditors. In contrast, any proposal that seeks to remove anti-takeover provisions will increase the likelihood of takeovers and therefore will be in the interests of shareholders and against the interests of debtholders.

The fourth category of proposals concerns executive compensation. If a given proposal increases the sensitivity of management pay to firm performance then this is in the interests of equity holders as it aligns executive interests with shareholder interests. For this same reason, greater pay to firm performance sensitivity may be against the interests of creditors: for instance, management with an executive compensation that is fully aligned with equity may engage in risk shifting when close to financial distress. DeFusco, Johnson, and Zorn (1990) show that approval of an executive stock option plan which increases the sensitivity of management pay to performance is accompanied by a significant positive stock reaction and a significant negative bond reaction which is consistent with a wealth transfer from bondholders to stockholders.

The fifth category of proposals concerns restructuring activities. Whether a particular restructuring activity is in the interests of debtholders or equity holders depends on the type of restructuring activity concerned and can be gauged by the stock market reaction to their announcement. The positive equity market reaction to asset sales in Clayton and Reisel (2013) and to spin-offs shown by Maxwell and Rao (2003) tell us that these are typically good for shareholders and bad for creditors. The negative market reaction to acquisitions of assets indicates that the market interprets these as being bad for shareholders if there is overpayment or equity issuance. Lastly, in the case of liquidations of assets, these are generally good for creditors and bad for shareholders as they get little or nothing.

Panel A of Table 2 reports statistics on the set of proposals that we analyze grouped into the five categories discussed above. Our conflict proposal sample consists of 2,081 proposals. The average number of families voting within each of these categories of proposals is between 15–35 families. Panel B presents the statistics on our voting sample. Our voting sample consists of 52,745 for or against decisions by fund families on 2,081 conflict proposals, and as a result is at the fund family-proposal level. For each of the proposals subject to a vote, we calculate VOTE_WITH_CREDITORS_(0,1) which is set equal to 1 if a given fund family casts more than 50% of the votes of its funds in favor of creditors for the given proposal and 0 otherwise. In our voting sample, fund families vote with creditors about 30% of the time. If we average fraction of votes cast in the interests of creditors across all fund families this is 25%. ISS support for creditors may affect how fund families vote on a given policy and the proportion of proposals for which ISS supports creditors is on average 30.1%. Panel B also presents the firm characteristics that serve as control variables when we analyze the relation between a fund family's debt fraction and its voting policy.

IV.   Empirical Results

In this section, we present our main findings on the governance role of debt holdings by institutional investors. First, we examine whether the family debt

TABLE 2

Voting Proposal and Voting Sample Statistics

Panel A of Table 2 reports statistics on the full sample of proposals we examine. We break down proposals into those that are less likely to result in a conflict of interest between debtholders and equity holders (nonconflict proposals) and those that are more likely to entail a conflict of interest between debtholders and equity holders (conflict proposals). We further breakup the category of conflict proposals by proposal type. We calculate for each type of proposal, the number of proposals, the average number of fund families voting within this proposal type, and the fraction of proposals for which ISS agrees with management's recommendation. Panel B presents the statistics on the sample of 52,745 votes on 2,081 conflict proposals. For each of the proposals subject to a vote, we calculate VOTE_WITH_CREDITORS_(0,1), which is set equal to 1 if a given fund family casts more than 50% of the votes of its funds in favor of creditors for the given proposal, and 0 otherwise. Our voting sample consists of 52,745 decisions by fund families in support or against 2,081 conflict proposals. All variables are defined in the Appendix.

Panel A. Proposal Statistics

Proposal Types	No. of Proposals	Average No. of Fund Families Voting	Proportion of Proposals for Which ISS = Management
1. Conflict proposals	2,081	25.76	0.84
1.1. Dividends and share repurchases	20	33.52	0.96
1.2. Equity issuance	364	20.06	0.85
1.3. Anti-takeover provisions	468	35.15	0.82
1.4. Executive compensation	1,029	25.49	0.83
1.5. Restructuring activities	200	14.82	0.90
2. Nonconflict proposals	72,393	25.77	0.89
2.1. Director election proposals	51,883	26.90	0.90
2.2. Other nonconflict proposals	20,510	26.99	0.85
Total	74,474	25.77	0.88

Panel B. Voting Sample Statistics

	N	Mean	Median	Q1	Q3	Std. Dev.
VOTE_WITH_CREDITORS_(0,1)	52,745	0.3038	0.0000	0.0000	1.0000	0.4599
FRACTION_OF_VOTES_WITH_CREDITORS	52,745	0.2490	0.0000	0.0000	0.3333	0.4302
ISS_WITH_CREDITORS_(0,1)	52,745	0.3012	0.0000	0.0000	1.0000	0.4588
MARKET_CAP ($US billion)	52,745	14.2583	3.9566	1.1164	13.9527	28.0553
MARKET_TO_BOOK	52,745	1.6184	1.3135	1.0387	1.8505	0.9545
LEVERAGE	52,745	0.2322	0.2145	0.1166	0.3228	0.1550
ROA	52,745	0.1350	0.1232	0.0629	0.1899	0.1018
FIRM_AGE	52,745	28.2406	22.1014	12.5041	39.3671	20.9717
INSTITUTIONAL_BLOCK_OWNERSHIP	52,745	0.2164	0.1786	0.0962	0.2769	0.3258
BIG_HOLDING_(0,1)	52,745	0.4285	0.0000	0.0000	1.0000	0.4949
NUMBER_OF_FUNDS_IN_THE_FAMILY	52,745	4.8073	3.0000	1.0000	6.0000	5.2453
DISTRESS_(0,1)	52,745	0.0556	0.0000	0.0000	0.0000	0.1622
FAMILY_DEBT_FRACTION	52,745	0.0393	0.0000	0.0000	0.0000	0.1511
Conditional on Family Holding Debt						
FAMILY_DEBT_FRACTION	7,136	0.2945	0.1489	0.0459	0.4901	0.3096

fraction held by a given fund management company in a given firm is correlated with the tendency of that fund management company to vote according to the interests of debtholders. Second, we consider how active and passive investors differ and whether the maturity of the debt holdings matters. Third, we adopt both instrumental variable and difference in differences tests as part of an identification strategy to proceed beyond simple correlations.

A.   Main Findings

We use the sample of 52,745 votes by fund families in support or against creditors' interests on 2,081 conflict proposals described above to analyze whether the fraction of debt held by fund families affects their propensity to vote with creditors. We regress our vote with creditors dummy on the fraction of debt held by fund families. In our regressions we include a number of control variables. First,

we include a dummy variable that is set to 1 if ISS supports creditors for the proposal concerned, and 0 otherwise. Second, we control for the characteristics of the firm being voted on. In particular, we control for the natural logarithm of its total assets, its leverage ratio, its market-to-book ratio, and its return on assets.[2] Third, motivated by Fich, Harford, and Tran (2015), we control for whether the fund family has a large stake in the company concerned. We would expect that if the fund family has a trivial stake in the firm concerned it might not be worthwhile for the fund family to think much on the direction it wishes to vote; whereas, if its stake is large, it might be more compelled to reflect further on these issues. We therefore include a dummy variable, which we label BIG_HOLDING_(0,1) that is 1 if the investment of the fund family in the firm concerned is above the size of its 75th percentile investment in the year concerned, and 0 otherwise. Fourth, we also include the natural logarithm of the number of funds in the fund family as a control, as the size of the fund family may have a bearing on the propensity to vote with creditors.

In Panel A of Table 3, models 1 and 2 report the results of regressing VOTE_WITH_CREDITORS_(0,1) on FAMILY_DEBT_FRACTION plus the controls defined above. Due to a large number of fixed effects, we use Ordinary Least Squares (OLS) regressions. We include fund family and proposal type x year fixed effects and our standard errors are clustered at the family level. Consistent with our expectations, model 1 shows that as the family debt fraction goes up the propensity to vote with creditors also goes up. A 1-standard-deviation increase (0.15) in FAMILY_DEBT_FRACTION is associated with an increase of 0.3% in the probability of voting in the interests of creditors. This economic effect is small given that the unconditional probability of voting with creditors is 30%.

If firms are in financial distress then small changes in firm policy may have serious consequences for the value of debtholders' stakes in the firm. However, if firms are away from the bankruptcy threshold, changes in firm policy should have a much more muted effect on the value of debtholders' stakes. As a result if fund families are voting on a firm in which they hold both debt and equity we would expect that the closer the firm is to financial distress the more the fund family would care about the value of their debt holdings in that firm. This discussion suggests that whether or not the firm being voted on is in financial distress may be material in determining the extent to which fund families vote with the interests of debtholders. We therefore augment the analysis of model 1 by including the influence of financial distress.

To see whether financial distress affects the impact of debt fraction on voting, we interact FAMILY_DEBT_FRACTION with a dummy variable that equals 1 if the target firm is in financial distress in that year, and 0 otherwise. Our definition of distress is based on the Bharath and Shumway (2008) distance to default measure and we define a firm to be in distress if its default probability is at least 75% in the year concerned. The results of our analysis are presented in model 2. The interaction between DISTRESS_(0,1) and FAMILY_DEBT_FRACTION has a statistically significant and positive effect on the propensity to vote with creditors. A 1-standard-deviation increase in FAMILY_DEBT_FRACTION is associated

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[2]In unreported regressions, we also control for the firm's cash holding (cash/assets) and the results are qualitatively similar.

TABLE 3

Effects of Debt Holdings on Voting

In Table 3, we report OLS regressions modelling fund families voting in favor of proposals that are in the interest of creditors. Our voting sample consists of 52,745 voting outcomes by fund families in support or against 2,081 conflict proposals, and as a result is at the fund family-proposal-firm-year level. In models 1 and 2 of Panel A, the dependent variable equals 1 if a given fund family casts more than 50% of the votes of its funds in favor of creditors for the given proposal concerned, and 0 otherwise. In models 3 and 4 of Panel A, the dependent variable equals the fraction of votes cast by funds in a family in favor of creditors for the given proposal concerned, and 0 otherwise. In Panel A we use all proposals. In Panel B we separate all proposals into those where creditor interests are aligned with the interests of management or not and report the coefficients of the main independent interaction variables from model 2 in Panel A. In Panel C we separate all proposals into those where creditor interests are aligned with the interests of ISS or not. In Panel D we perform placebo tests by using proposals that are less likely to exhibit a conflict of interest between debtholders and equity holders. The key independent variable FAMILY_DEBT_FRACTION is the sum of investment in bonds across all funds of the family in a firm in a year divided by the sum of investment in bonds and equity across all funds of the family in the firm in the year. All other variables are defined in the Appendix. All regressions control for fund family fixed effects and (proposal type × year) fixed effects except for model 1 in Panel D, which we do not control for proposal type as there is only one proposal type "director election". Standard errors are clustered by fund family. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Panel A. All Proposals

	Dependent Variable: VOTE_WITH_CREDITORS_(0,1)				Dependent Variable: FRACTION_OF_VOTES_WITH_CREDITORS			
	Model 1		Model 2		Model 3		Model 4	
Independent Variables	Coefficient	p-Value	Coefficient	p-Value	Coefficient	p-Value	Coefficient	p-Value
FAMILY_DEBT_FRACTION	0.0200**	0.0308	0.0170*	0.0737	0.0133*	0.0608	0.0099	0.3132
DISTRESS_(0,1)			−0.0263**	0.0148			−0.0131	0.2455
FAMILY_DEBT_FRACTION × DISTRESS_(0,1)			0.1681***	0.0071			0.1898***	0.0008
ISS_WITH_CREDITORS_(0,1)	0.7872***	0.0000	0.7876***	0.0000	0.6895***	0.0000	0.6897***	0.0000
ln(MARKET_CAP)	0.0024*	0.0961	0.0026*	0.0918	0.0046**	0.0186	0.0048**	0.0154
MARKET_TO_BOOK	−0.0021	0.2449	−0.0019	0.3202	−0.0033	0.1969	−0.0040	0.1430
LEVERAGE	0.0129	0.2678	0.0122	0.3995	0.0020	0.9032	−0.0101	0.6639
ROA	0.0296	0.2522	0.0280	0.2846	0.0418	0.1644	0.0414	0.1761
FIRM_AGE	−0.0034*	0.0979	−0.0032	0.1130	−0.0061*	0.0913	−0.0062*	0.0828
INSTITUTIONAL_BLOCK_OWNERSHIP	−0.0008	0.8446	0.0002	0.9526	−0.0038	0.5593	−0.0030	0.6375
BIG_HOLDING_(0,1)	−0.0009	0.6832	−0.0014	0.5290	−0.0004	0.8512	−0.0007	0.7538
NUMBER_OF_FUNDS_IN_THE_FAMILY	−0.0098***	0.0000	−0.0098***	0.0000	−0.0104***	0.0000	−0.0103***	0.0000
Intercept	0.1881***	0.0000	0.1863***	0.0000	−0.6874***	0.0000	−0.6857***	0.0000
N	52,745		52,745		52,745		52,745	
Adj. R²	0.8447		0.8448		0.8011		0.8011	

Panel B. Proposals Grouped by Whether Creditor Interests Are Aligned with Management's

	Creditor Interests = Management interests		Creditor Interests ≠ Management Interests	
	Model 1		Model 2	
	Coefficient	p-Value	Coefficient	p-Value
FAMILY_DEBT_FRACTION × DISTRESS_(0,1)	0.4641**	0.0366	0.1751**	0.0412
Other controls as in model 2 of Panel A	Yes		Yes	
N	13,384		39,361	

TABLE 3 (continued)

Effects of Debt Holdings on Voting

Panel C. Proposals Grouped by Whether Creditor Interests Are Aligned with ISS's

	Creditor Interests = ISS Interests			Creditor Interests ≠ ISS Interests	
	Model 1			Model 2	
	Coefficient	*p*-Value		Coefficient	*p*-Value
FAMILY_DEBT_FRACTION × DISTRESS_(0,1)	0.1303***	0.0000		0.0513**	0.0206
Other controls as in model 2 of Panel A excluding ISS_WITH_CREDITORS_(0,1)	Yes			Yes	
N	12,659			40,086	

Panel D. Placebo Tests on Voting Policy Using Nonconflict Proposals

	Director Election Proposals			Nondirector Election Proposals			All Nonconflict Proposals	
	Model 1			Model 2			Model 3	
	Coefficient	*p*-Value		Coefficient	*p*-Value		Coefficient	*p*-Value
FAMILY_DEBT_FRACTION × DISTRESS_(0,1)	0.0280	0.1952		0.0078	0.2780		0.0282	0.2410
Other controls as in model 2 of Panel A	Yes			Yes			Yes	
N	1,395,566			553,248			1,948,814	

Panel E. Voting Dispersion Across Funds Within a Family

Percentage of votes in which:	Families Holding Debt and Equity	Families Holding Equity Only	*z*-Test for Difference in Proportions
Funds within a family vote differently on the same proposal	(*N* = 7,136) 2.00%	(*N* = 45,609) 0.96%	6.48***
Funds within a family vote differently on the same proposal conditional on ISS recommendation to vote against management	(*N* = 462) 4.16%	(*N* = 4,070) 1.77%	3.47***

with an increase of 2.5% in the probability of voting in the interests of creditors when the firm is in financial distress (which represents an increase of 8.3 percentage points from the unconditional probability of voting with creditors). If we compare model 2 with model 1, it is clear that the impact of FAMILY_DEBT_FRACTION is greater when a given firm is in financial distress. This is consistent with the idea that the closer fund families are to financial distress, the more they care about the interests of their debt holdings in firms.

In Panel A of Table 3, models 3 and 4 replace VOTE_WITH_CREDITORS_ (0,1) with a continuous measure of the fraction of votes cast by funds within the family in support of creditors. The results are consistent with those in models 1 and 2. In model 4, the total value of FAMILY_DEBT_FRACTION (0.099) + FAMILY_DEBT_FRACTION × DISTRESS_(0,1) (0.1898) is 0.1997, which is significant at the 1% level. For distressed firms, we estimate that a 1-standard-deviation increase in FAMILY_DEBT_FRACTION is associated with an increase of 3% in the fraction of votes in the interest of creditors. This effect represents an increase of 12 percentage points in the fraction of votes in the interest of creditors for the average distressed firm in our sample. For nondistressed firms, a 1-standard-deviation increase in FAMILY_DEBT_FRACTION is associated with an increase of 0.15% in the fraction of votes in the interests of creditors. This effect represents an increase of 1 percentage point in the fraction of votes in the interest of creditors for the average nondistressed firm in our sample. Therefore, a 1-standard-deviation increase in FAMILY_DEBT_FRACTION is associated with an increase of 3% − 0.15% = 2.85% in the fraction of votes in the interest of creditors when the firm is in financial distress compared to nonfinancial distress.

It might be argued that fund families would find it easier to vote with creditors on proposals where creditor interests align with management interests or ISS interests but find it harder to vote with creditors on proposals where voting with creditors involves voting against management or ISS. To test this idea we separate out proposals where creditors interests are either: i) aligned with the management interests, or ii) opposite to the interests of management. Panel B of Table 3 presents the analysis of model 2 in Panel A except that we now separately analyze in model 1 of Panel B only proposals where management interests are aligned with creditors interests and in model 2 of Panel B we separately analyze proposals where management interests are contrary to creditor interests.

In model 1 of Panel B of Table 3, a 1-standard-deviation increase in FAMILY_DEBT_ FRACTION is associated with an increase of 6.9% in the probability of voting in the interests of creditors when the firm is in distress (which represents an increase of 9.8 percentage points from the unconditional probability of voting with creditors). In model 2 of Panel B, the same increase is associated with an a 2.6% increase in the probability of voting in the interests of creditors when the firm is in distress (which represents an increase of 29.2 percentage points from the unconditional probability of voting with creditors).

Likewise, we then separate out proposals depending on whether creditors interests line up with ISS or not and these are reported in Panel C of Table 3. We do not include the dummy variable indicating whether ISS votes in support of creditors as one of our independent variables since that dummy variable is our sample separation criterion in this panel. In model 1, when ISS's interests

align with those by creditors, a 1-standard-deviation increase in FAMILY_ DEBT_FRACTION is associated with an increase of 1.9% in the probability of voting in the interests of creditors when the firm is in financial distress (which represents an increase of 2.1 percentage points from the unconditional probability of voting with creditors/ISS). In model 2, when ISS's interests go against those by creditors, the same increase is associated with an increase of 0.8% in the probability of voting in the interests of creditors when the firm is in financial distress (which represents an increase of 26.5 percentage points from the unconditional probability of voting with creditors). The specification used in model 2 alleviates the concern that voting decisions of ISS and fund companies are correlated.

Overall, the results in Panels B and C of Table 3 show that fund families find it easier to vote with creditors on proposals where creditors interests align with management interests or ISS interests but find it harder to vote with creditors on proposals where voting with creditors involves voting against management or ISS in which the economic effects are much larger. What is noteworthy when we look at our results is that there is still a statistically significant effect of the interaction of debt fraction with financial distress on the propensity to vote with creditors, even if voting with creditors requires fund families to vote against management or ISS. Therefore, overall, when firms are in financial distress, family debt fraction affects how fund families vote on these firms.

Panel D of Table 3 performs a placebo test. If our intuition concerning the impact of FAMILY_DEBT_FRACTION on voting policy is correct then we would expect that for proposals where debt and equity holders have no conflict that there will be no effect of FAMILY_DEBT_FRACTION on voting policy. To test this we take all proposals and remove all "conflict" proposals that have been used to perform the tests in Panels A, B, and C of Table 3. Panel D shows that for all nonconflict proposals there is no link between voting propensities and FAMILY_DEBT_FRACTION, as one would expect. It might be argued that director elections are the nonconflict proposals where there is most clearly no conflict of interest between debt and equity holders. We therefore conduct further tests using director election proposals alone (and for completeness we also run our analysis for the remaining nonconflict but nondirector election proposals). Our results confirm that however we split our sample of nonconflict proposals that FAMILY_DEBT_ FRACTION interacted with DISTRESS_(0,1) remains insignificant.

Our tests in Table 3 assume that fund families make their voting decisions at the family level as most fund families have centralized governance offices that handle the voting and engagement functions for all of their funds. This is suggested by the Vanguard April 2017 Statement of Additional Information and by the July 2017 BlackRock Investment Stewardship report that both describe the centralized nature of their proxy oversight committees. To examine the validity of this assumption we examine the average fraction of votes within a fund family that are different for the same proposal. Panel E of the same table shows that the percentage of funds that vote differently within a given fund family across all proposals is on average very small and typically under 2%, which justifies our assumption. This is consistent with Keswani, Stolin, and Tran (2017), who find that funds within a family vote in the same direction almost 99% of the time. The same panel also shows that when we focus on less clear-cut proposals where ISS recommends voting against

management, we find that the level of disagreement within fund families increases. This evidence is consistent with Iliev and Lowry (2015) who find that disagreement within fund families goes up for more contentious proposals. Table 3 Panel E also breaks down the percentage of funds that vote differently within a family according to whether families hold only equity or both debt and equity. As fund families that hold both debt and equity are likely to have funds with a greater number of viewpoints, we might expect these fund families to vote more differently across their funds than pure equity fund families and it confirms that this is indeed the case.

B.   Additional Analyses

In this section, we present additional analyses to help understand the governance role of debt holdings by institutional investors. First, we distinguish between active and passive investors to find out which type of investor is more engaged in debtholder governance. Second, we consider whether the maturity of the debt holdings matters.

1.   Active vs. Passive Funds

It might be argued that the fraction of stock owned by passive rather than active funds may significantly affect the governance of the firms concerned. To test whether this is the case in our data set, we first use the names of each of the 6,874 funds in our database to manually classify them into passive versus active funds.[3] We find that in our sample 6,096 (88.68%) of the funds are active while 778 (11.32%) are passive. For each family we calculate the debt fraction separately for the active funds and for the passive funds alone. Panel A of Table 4 shows that the mean fraction of debt held by active funds in fund families that hold any debt is 39% while the mean debt fraction of passive funds (for fund families that hold some debt) is 13%. Panel B shows that while the debt fraction held by active funds plays a significant role on voting policy, the debt fraction of passive funds plays no significant role at all. These results suggest that the channel through which the debt holdings of institutional investors affect voting operates via active rather than passive funds.

2.   Debt Maturity

Funds may hold debt of a range of maturities. If funds hold more short-term debt in a given firm, then they may feel less compelled to influence that firm's policy (particularly if the effects of changes in firm policy are only likely to be manifest in the longer term). We define bonds of less than 5 years to maturity as being short-term bonds and the remainder as medium and long-term debt. This allows us to calculate a family debt fraction using either just short-term debt or the combined total of medium and long-term debt. Panel A of Table 5 shows that fund

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[3]To identify funds as passive we check for the presence of the following strings within the full fund title from Morningstar: Index, Idx, Indx, Ind, ETF, Russell, Passive, S&P, SandP, DOW, Dow, MSCI, Bloomberg, KBW, NASD, NASDAQ, NYSE, RUSS, STOXX, FTSE, Wilshire, Morningstar, Trkr, ProShares, DJUSHealthCare100, MidCap400, SmallCap600, QQQ, RydexMidCap, MarketTrack. We then run a manual check to determine whether the observations classified as passive are valid.

TABLE 4

Effects of Debt Holdings on Voting by Active vs Passive Funds

Table 4 reports the analysis of fund debt holdings on voting for active and passive funds. Panel A shows the summary statistics for the FAMILY_DEBT_FRACTION depending on whether the fund holding the firm's debt is active or passive. Debt fraction at the family level for active (passive) funds is the proportion of investment in bonds by active (passive) funds in total investment in bonds and equity for all funds in the family. Panels B presents the effects of active or passive family debt holding on voting under financial distress using the regressions reported in model 2 of Panel A in Table 3. All other variables are defined in the Appendix. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Panel A. Summary Statistics of Debt Holdings

	Active Funds		Passive Funds		Difference
	N	Mean [Median]	N	Mean [Median]	t-Stat. [z-Stat.]
FAMILY_DEBT_FRACTION	52,745	0.0482 [0.0000]	52,745	0.0032 [0.0000]	56.53***
FAMILY_DEBT_FRACTION conditional on family debt holding	6,561	0.3915 [0.2496]	1,350	0.1294 [0.0708]	41.36*** [24.42***]

Panel B. Effects of Family Debt Holdings on Voting Policy

Coefficient and p-value for FAMILY_DEBT_FRACTION × DISTRESS_(0,1)		Active Funds		Passive Funds	
	N	Coefficient	p-Value	Coefficient	p-Value
All proposals	52,745	0.1840***	0.0045	0.1730	0.2313
Creditor = management interests	13,384	0.1643**	0.0423	0.0436	0.6970
Creditor ≠ management interests	39,361	0.1930**	0.0162	0.0466	0.5190
Creditor = ISS interests	12,659	0.1179***	0.0000	0.0921	0.5390
Creditor ≠ ISS interests	40,086	0.0909**	0.0104	0.0727	0.5930

TABLE 5

Effects of Debt Holdings on Voting by Debt Maturity

Table 5 reports the analysis of fund debt holdings on voting for debt of varying maturity. Panel A shows the summary statistics for the FAMILY_DEBT_FRACTION depending on whether the fund's debt holding is short-term (less than 5 years to maturity) or mid- or long-term (at least 5 years to maturity). Debt fraction at the family level for short-term (mid- and long-term) debt is the proportion of investment in short-term (mid- and long-term) bonds in total investment in bonds and equity for all funds in the family. Panel B presents the effects of debt maturity on voting under financial distress using the regressions reported in model 2 of Panel A in Table 3. All other variables are defined in the Appendix. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Panel A. Summary Statistics of Debt Holdings

	Mid- and Long-Term		Short-Term		Difference
	N	Mean [Median]	N	Mean [Median]	t-Stat. [z-Stat.]
FAMILY_DEBT_FRACTION	52,745	0.0317 [0.0000]	52,745	0.0121 [0.0000]	27.77***
FAMILY_DEBT_FRACTION conditional on family debt holding	5,876	0.2869 [0.1313]	2,824	0.2281 [0.0788]	8.49*** [11.68***]

Panel B. Effects of Family Debt Holdings on Voting Policy

Coefficient and p-value for FAMILY_DEBT_FRACTION × DISTRESS_(0,1)		Mid- and Long-Term		Short-Term	
	N	Coefficient	p-Value	Coefficient	p-Value
All proposals	52,745	0.1715***	0.0007	0.0211	0.6223
Creditor = management interests	13,384	0.1665**	0.0122	−0.0156	0.8584
Creditor ≠ management interests	39,361	0.1781***	0.0013	0.0501	0.2773
Creditor = ISS interests	12,659	0.1567***	0.0000	0.0457	0.2845
Creditor ≠ ISS interests	40,086	0.1364**	0.0121	0.0383	0.5472

families hold significantly more mid and long-term debt rather than short-term debt with the mid and long-term debt fraction among families being 29%, while the short-term debt fraction is only 23%. In Panel B we examine the effect of the short-term debt fraction on voting policy and find that it is insignificant, while the effect of the fraction of mid and long-term debt does play a significant role. Therefore, our prior beliefs that holdings of short-term debt are less likely to be associated to debtholder governance are confirmed in the data.

C.   Identification

The results so far should be interpreted as simple correlations: mutual fund families with a long position in both corporate debt and equity tend to vote according to the interest of debtholders rather than shareholders. This correlation cannot be interpreted as causality because it could well be driven by omitted factors: for instance, higher degree of risk aversion by the fund management may lead to both joint investment in debt and equity, and a conservative choice of voting. In this section we adopt both instrumental variable and difference in differences tests to alleviate endogeneity problems.

1.   Instrumental Variable Analysis

To move closer to the identification of a causal link between institutional debt holdings and corporate governance, we adopt an instrumental variable approach. If a fund family decides to launch a new debt fund, this may affect the debt-to-equity fraction that this family holds in its portfolio firms.[4] Opening a new debt fund is likely to be driven by the desire to satisfy market demand rather than because a fund family wants to hold more debt in a particular firm. Therefore, it might be argued that the opening of a debt fund is a valid instrument to estimate the effect of changes in the family debt fraction on voting. We check our database each year to see when a fund family creates a new debt fund under its management. We are able to find 197 incidents when this happens. We then create our instrument, NEW_DEBT_FUND_(0,1), which equals 1 if a given fund family with an ownership stake in the firm opens a new debt fund in the year concerned for the family level test, and 0 otherwise. We then use this instrument in our first-stage models.

As a further cross check using these gathered incidents, we investigate whether fund families use these new fund openings to "actively" re-orient their portfolios across securities. We find that this is not the case as on average 86% of the time investments that fund families make when they launch new funds in our sample are in the same firms in which they already own debt or equity securities, which suggests that the choice of the firms in which new funds invest is virtually "passive."

To test whether the introduction of new debt funds significantly affects the family debt fraction, we regress FAMILY_DEBT_FRACTION on a set of control variables and NEW_DEBT_FUND_(0,1) and its interaction with DISTRESS_(0,1). Wooldridge ((2002), p.236) suggest that we instrument for both debt fraction and its interaction with DISTRESS_(0,1) in two separate first-stage models.

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[4]When a fund family opens a new debt fund, typically (in 58% of the cases) they do not close any other funds at the same time. In the other cases they close either a debt or an equity fund.

Gopalan and Xie (2011) also use this approach to study conglomerates at times of industry distress. The results of doing so in our setting are reported in models 1 and 2 of Table 6. Our first-stage results show that NEW_DEBT_FUND_(0,1) interacting with DISTRESS_(0,1) has a statistically significant positive effect on the interaction of FAMILY_DEBT_FRACTION with DISTRESS_(0,1). To gauge the strength of our new debt fund instrument and its interaction with the distress variable, the Cragg–Donald (1993) statistics of the excluded instrument (against the null that the excluded instrument is irrelevant in the first-stage regression) are clearly above the critical value for the Stock—Yogo (2005) weak identification test. We employ the methods outlined by Stock and Watson (2010) to test the validity of our instrument and ensure that the relevance condition is satisfied.

We then use the family debt fraction and its interaction with distress instrumented as in models 1 and 2 of Table 6 to determine whether there is a significant effect of FAMILY_DEBT_FRACTION on voting policy, especially when firms are in distress. Model 3 shows that FAMILY_DEBT_FRACTION has a significant effect on the propensity to vote with creditors. A 1-standard-deviation increase in the family debt fraction is associated with an increase of 3.1% in the probability of voting in the interests of creditors when the firm is in financial distress, which is similar in magnitude to that from the baseline model of 2.5% reported in model 2 of Panel A in Table 3.

2.   Using Fund Family Mergers as a Quasi-Natural Experiment

In this section, we discuss a further identification test based on He and Huang (2017), which involves conducting a quasi-natural experiment using fund family mergers. As these mergers are unlikely to be motivated by fund family voting considerations or by the desire of a fund family to alter the debt fraction of a given firm, it might be argued that these mergers provide a quasi-exogenous change in the debt fraction of fund companies. We therefore conduct DiD regression analysis on how changes in debt fraction as a result of exogenous shocks from fund family mergers affect voting policies. We identify fund family mergers completed during 2009–2012 from Securities Data Company's (SDC) M&A database in which the merging parties own debt or equity stakes in our sample firms before the merger and can be matched to fund families in Morningstar. We are able to find four fund family mergers: Invesco acquiring Van Kampen Investments in 2009 (completed in 2010), Affiliated Managers acquiring Highbury Financial in 2010, PNC Funds acquiring Allegiant in 2010, and Wells Fargo Funds acquiring Evergreen Funds in 2010. We keep only firms in which the merging parties own debt or equity stakes before the merger. We also exclude firms in which fund families hold both debt and equity before the mergers, which allows us to more clearly identify the debt equity position of the merged entity relative to the two initial firms, resulting in a cleaner test. To identify treated firms as a result of the merger, we require that: i) the acquirer holds only equity while the target holds only debt in the firm concerned in the year before merger completion, or ii) the target holds only equity while the acquirer holds only debt in the firm concerned in the year before the merger completion. We note that Chu (2018) excludes firms that are already treated by a merger between financial institutions but are later treated again by another merger between different financial institutions within 3 years. This does not apply in our sample because all of our

TABLE 6

Effects of Debt Holdings on Voting Using an Instrumental Variables Approach

In Table 6 we report the results of a 2-stage regression: The first-stage models the determinants of the fund family debt fraction; and the second-stage models the voting outcomes. In models 1 and 2, we estimate the first-stage OLS effect of the creation of new debt funds on debt fraction and its interaction with distress following Woodridge (2002). In model 3, we present the second stage using the fund family debt fraction and its interaction instrumented from the first stage in models 1 and 2. The second-stage dependent variable is VOTE_WITH_CREDITORS_(0,1), which equals 1 if a given fund family casts more than 50% of the votes of its funds in favor of creditors for the given proposal concerned, and 0 otherwise. Models 1 and 2 control for (industry × year) fixed effects. Model 3 controls for fund family fixed effects and (proposal type × year) fixed effects. NEW_DEBT_FUND_(0,1) equals 1 if a given fund family with an ownership stake in the firm opens a new debt fund in the year concerned, and 0 otherwise. All other variables are defined in the Appendix. Standard errors are clustered by fund family. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

| | First Stage | | | | Second Stage | |
| | Model 1 FAMILY_DEBT_FRACTION | | Model 2 FAMILY_DEBT_FRACTION × DISTRESS_(0,1) | | Model 3 VOTE_WITH_CREDITORS_(0,1) | |
	Coefficient	p-Value	Coefficient	p-Value	Coefficient	p-Value
NEW_DEBT_FUND_(0,1)	0.0171***	0.0003	0.0000	0.9200		
NEW_DEBT_FUND_(0,1) × DISTRESS_(0,1)	0.0830	0.3564	0.0971**	0.0301		
[FAMILY_DEBT_FRACTION]'					−0.0515	0.3604
[FAMILY_DEBT_FRACTION × DISTRESS_(0,1)]'					0.2088**	0.0239
ISS_WITH_CREDITORS_(0,1)	0.0011	0.7596	0.0000	0.9830	0.7884***	0.0000
ln(MARKET_CAP)	0.0123***	0.0000	0.0004	0.4741	0.0030	0.1049
MARKET_TO_BOOK	−0.0015	0.3936	0.0004	0.3807	−0.0016	0.3985
LEVERAGE	0.1358***	0.0000	0.0065	0.4471	0.0314*	0.0726
ROA	−0.0509**	0.0178	−0.0015	0.5504	0.0174	0.4235
FIRM_AGE	−0.0060***	0.0045	0.0005*	0.0919	−0.0028	0.1976
INSTITUTIONAL_BLOCK_OWNERSHIP	−0.0036	0.5290	−0.0014	0.7012	0.0019	0.8551
BIG_HOLDING_(0,1)	0.0235***	0.0000	0.0021*	0.0671	0.0017	0.5295
NUMBER_OF_FUNDS_IN_THE_FAMILY	−0.0056***	0.0000	−0.0006*	0.0678	−0.0100***	0.0000
DISTRESS_(0,1)	0.0034	0.8377	0.0625***	0.0000	−0.0942***	0.0080
Intercept	−0.0822***	0.0003	−0.0059	0.1056	0.1777***	0.0000
F-statistic of excluded instrument	27.92		23.70			
N	52,745		52,745		52,745	
Adj. R²	0.0670		0.0872		0.8463	

mergers between fund families complete in 2010 and our debt and equity holdings are measured at the end of the calendar year. This procedure results in a sample of 27 treated firms involved in these four fund family mergers. Our voting sample has 19,173 observations meeting these criteria. We construct TREAT_(0,1) to be 1 for voting observations involving the treated firms and 0 otherwise, and POST_(0,1) to be 1 if the firm-year of the observation is after the merger. All regressions control for fund family fixed effects and (proposal type × year) fixed effects. POST_(0,1) is subsumed by the year fixed effects.

We report our DiD results in Table 7. Model 1 shows that TREAT_(0,1) × POST_(0,1) is statistically significant and model 2 shows that this effect is magnified under financial distress. Overall, the results indicate that changes in fund family debt holdings as a result of a merger with another family has a significant effect on voting policy. Although we cannot completely rule out endogeneity concerns, our estimates being consistent across different methodologies offer some reassurance about the robustness of our findings.

V.   The Consequences of Voting for Firm Policy

Our results suggest that joint debt-equity holdings by institutional investors increase the likelihood that they will vote with creditors. In this section, we turn to the economic implications of this result. Institutional investors can communicate with firms either directly or by voting. While we cannot generally observe the direct communication, we can see the voting behavior of mutual fund companies and therefore we can examine if these votes have consequences for firm policy. To shed light on the economic importance of voting as the channel through which debt equity holdings affect firm policy we follow a 2-step approach. We first calculate the total impact of joint debt-equity holdings on policy, by directly relating the average joint debt-equity holdings across investors in a given firm to its policy. Then we calculate how much of this effect is due to the voting channel by relating votes cast in favor of creditors on that firm to its policy. This allows us to measure what fraction of the total impact of joint debt equity holdings on policy is attributable to voting. The evidence in the literature tells us that joint debt equity holdings affect firm investment and payout policy and therefore we focus below on policy choices in these two areas.

A.   Measures of Firm Policy

We measure firm investment policy using four measures. We consider first capital expenditure (CAPEX) policy. The corporate finance literature argues that firms that are close to financial distress may experience debt overhang, which may dissuade them from taking positive net present value (NPV) investments. We would expect firms receiving more creditor votes to act more in the interests of debtholders and to therefore invest more in financial distress.[5] The second policy we examine is

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[5]Alternatively, we could focus only on large capital investment outlays where there are major investment injections as opposed to small investments that are likely to occur on a daily basis. We measure large capital expenditure, seasoned equity offerings, dividends, and repurchases using a dummy variable approach in which the policy variable is set to one if the continuous variable is above the median

TABLE 7

Effects of Debt Holdings on Voting Using Fund Family Mergers

Table 7 reports DiD regression analysis on how changes in debt fraction as a result of exogenous shocks from fund family mergers affect voting and firm policies. We identify fund family mergers completed during 2009--2012 from SDC's M&A database in which the merging parties own debt or equity stakes in our sample firms before the merger and can be matched to fund families in Morningstar. We are able to find four fund family mergers: Invesco acquiring Van Kampen in 2009 (completed in 2010), Affiliated Managers acquiring Highbury Financial in 2010, PNC Funds acquiring Allegiant in 2010, and Wells Fargo Funds acquiring Evergreen Funds in 2010. We keep only firms in which the merging parties own debt or equity stakes before the merger. We also exclude firms in which fund families hold both debt and equity before the mergers. To identify treated firms as a result of the merger, we require that i) the acquirer holds only equity while the target holds only debt in the firm concerned in the year before merger completion, or ii) the target holds only equity while the acquirer holds only debt in the firm concerned in the year before the merger completion. We construct TREAT_(0,1) to be 1 for voting observations involving the treated firms and POST_(0,1) to be 1 if the firm-year of the observation is after the merger. All regressions control for fund family fixed effects and (proposal type × year) fixed effects. POST_(0,1) is subsumed by the year fixed effects. All other variables are defined in the Appendix. Standard errors are clustered by fund family. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

	Dependent Variable: VOTE_WITH_CREDITORS_(0,1)			
	Model 1		Model 2	
	Coefficient	p-Value	Coefficient	p-Value
ln(MARKET_CAP)	−0.0008	0.5984	0.0004	0.7879
MARKET_TO_BOOK	−0.0026***	0.0044	−0.0029***	0.0049
LEVERAGE	0.0105	0.1863	−0.0050	0.6148
ROA	0.0685***	0.0000	0.0605***	0.0000
FIRM_AGE	−0.0039*	0.0630	−0.0042**	0.0478
INSTITUTIONAL_BLOCK_OWNERSHIP	0.0014	0.8409	0.0027	0.7139
BIG_HOLDING_(0,1)	0.0051	0.2104	0.0044	0.2757
NUMBER_OF_FUNDS_IN_THE_FAMILY	−0.0124*	0.0665	−0.0124	0.0649
ISS_WITH_CREDITORS_(0,1)	0.7984***	0.0000	0.7992***	0.0000
TREAT_(0,1)	0.0410	0.1077	0.0237	0.3146
TREAT_(0,1) × POST_(0,1)	0.0309**	0.0232	0.0187**	0.0446
DISTRESS_(0,1)			−0.0287***	0.0006
TREAT_(0,1) × DISTRESS_(0,1)			0.0424	0.1779
TREAT_(0,1) × POST_(0,1) × DISTRESS_(0,1)			0.2187**	0.0249
Intercept	0.2009***	0.0000	0.1975***	0.0000
N	19,173		19,173	
Adj. R^2	0.8427		0.8430	

seasoned equity offerings (SEO). If firms are close to financial distress, we would expect them to not want to issue equity because of the debt overhang problem. However, if firms recognize that their shareholders care about creditor interests as well, they will be compelled to act more in the interests of debtholders and be more prepared to issue equity in financial distress. As a result we expect to see more equity issuance in financial distress for firms that receive a higher fraction of votes in favor of creditors. To measure the two investment policies above, we scale the value of capital expenditure and SEO proceeds by book value of assets and set to zero missing values. The third policy we examine is noncore mergers and acquisitions (M&A). Noncore acquisitions in financial distress can be understood as a hedging policy. Shareholders in financial distress do not want hedging rather they want risk shifting. Therefore, noncore acquisitions are not in the interests of equity holders. Conversely, hedging is in the interests of debtholders in financial distress and therefore noncore acquisitions are in the interests of debtholders. The noncore M&A variable is set to 1 if the firm makes an acquisition in which the target and the

across all firms in the year concerned. Although our results are qualitatively similar when we use the dummy dependent variables in either OLS or binary models, the dummy variable approach makes the interpretation of the economic effects difficult.

acquirer are not in the same 2-digit Standard Industrial Classification (SIC) code during the year, and 0 otherwise.

We model payout policy using two measures namely dividends and repurchases. If more procreditor votes signal to the firm the preferences of shareholders, we would expect these votes to lead to a payout policy that is more aligned with creditors interests and therefore to less dividends and less share repurchases. We follow a similar approach to our analysis of investment policy in that we include the same control variables and scale our payout variables by book value of assets.

Panel A of Table 8 reports the summary statistics of our sample firm characteristics. Our sample used for testing the impact of debt holdings on firm policy includes 12,327 firm-year observations. Overall the key statistics are comparable with other samples used in the literature. For example, our mean dividends scaled by assets is 1.02% which is close to 0.90% reported in Chu (2018). The mean institutional block ownership in our sample is 20%, which is comparable to the statistics in Chen, Harford, and Li (2007) that use the Thomson 13F database instead of Morningstar Direct.

B.   The Direct Effect of Joint Debt Equity Holdings on Policy

We need a firm-level variable that captures the extent to which the equity of a firm is jointly held with debt by institutional investors. We define VALUE_WEIGHTED_DEBT_FRACTION of firm (j) in year (t) as the following:

$$(2) \quad \text{VALUE\_WEIGHTED\_DEBT\_FRACTION}_{j,t} =$$

$$\sum_i \frac{\substack{\text{Value of family } (i) \\ \text{debt and equity holdings in firm } (j) \text{ at } (t)}}{\substack{\text{Total value of all families'} \\ \text{debt and equity holdings in firm } (j) \text{ at } (t)}} \times \text{FAMILY\_DEBT\_FRACTION}_{i,j,t}.$$

When we relate the value-weighted debt fraction of a firm to its policies, we use a number of control variables. These include the firm's characteristics, such as the natural log of the market value of equity, market-to-book ratio, return on assets, and leverage ratio. If the holdings of fund families in a firm are more concentrated, then we might expect those families to be able to exert more pressure on the firm than if the holdings of fund families in the firm concerned are more thinly spread. To control for this we include a variable that measures institutional block ownership, which we define as the fraction of the firm that is held by block holders that hold more than 5% of the firm each. We also control for fund family characteristic such as the family's BIG_HOLDING_(0,1) and the number of funds in the family similar to those in the voting regressions, but we value weight these measures across all families holding stakes in the firm during a year in the same manner as equation (2). In our firm policy regressions we include industry times year fixed effects and we cluster our standard errors by firm.

The results of doing so are reported in Panel B of Table 8. Higher debt equity holdings lead to firms acting more in the interests of creditors and as a result investing more and raising more finance in financial distress and also paying out less. A 1-standard-deviation increase in FAMILY_DEBT_FRACTION (which is then value-weighted across families holding debt and/or equity in the firm) is

TABLE 8

Importance of Voting Channel on Firm Investment and Payout Policy

In Table 8, we report OLS regressions modelling firm investment and payout decisions in a given year. Panel A presents the summary statistics of our 12,327 firm-year sample described in Table 1. In models 1--5, the dependent variables are different firm investment and payout variables defined in the Appendix. In Panel B, the key independent variable VALUE_WEIGHTED_DEBT_FRACTION is the value weighted debt fraction by all families in a firm in a year with the weight being the family's investment (sum of both debt and equity) in the firm. Debt fraction at the family level is the proportion of investment in bonds in total investment in bonds and equity for all funds in the family. Panel C relates the overall voting policy by fund families on all conflict proposals to firm policy in each firm-year. To measure the fraction of votes in the interest of creditors on all conflict proposals, we calculate first the fraction of votes in the interest of creditors for each fund family across each conflict proposal category. We then average the fraction of votes in the interest of creditors for each fund family across all conflict proposal categories. After calculating the fraction voted in the interest of creditors for a given fund family in a firm in a given year, we calculate an equity-value weighted average fraction of votes in the interest of creditors across fund families in a firm in a given year. This measure can then be related to the different types of firm investment and payout policy. All other variables are defined in the Appendix. All regressions control for (industry × year) fixed effects. Standard errors are clustered by firm. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Panel A. Firm Characteristics

	N	Mean	Median	Q1	Q3	Std. Dev.
MARKET_CAP ($billions)	12,327	14.6256	1.5320	1.0384	12.9148	27.4401
MARKET_TO_BOOK	12,327	1.5884	1.3394	1.0079	1.7707	0.9675
LEVERAGE	12,327	0.2341	0.2230	0.1010	0.3236	0.1492
ROA	12,327	0.1352	0.1149	0.0522	0.1559	0.0925
FIRM_AGE	12,327	28.7210	23.0959	11.7616	37.7726	17.3709
INSTITUTIONAL_BLOCK_OWNERSHIP	12,327	0.2038	0.1803	0.0693	0.3040	0.2652
CAPEX	12,327	0.0396	0.0216	0.0053	0.0493	0.0574
SEO	12,327	0.0179	0.0000	0.0000	0.0000	0.0824
NONCORE_M&A	12,327	0.0204	0.0000	0.0000	0.0000	0.1415
DIVIDEND	12,327	0.0102	0.0007	0.0000	0.0104	0.0306
REPURCHASE	12,327	0.0139	0.0000	0.0000	0.0064	0.0418
VALUE_WEIGHTED_DEBT_FRACTION	12,327	0.0499	0.0000	0.0000	0.0269	0.1514
Conditional on family holding debt in the firm-year						
VALUE_WEIGHTED_DEBT_FRACTION	3,851	0.2597	0.1831	0.0335	0.3962	0.2943

Panel B. The Effects of Debt Holdings on Firm Investment and Payout Policy

	Model 1		Model 2		Model 3		Model 4		Model 5	
	CAPEX		SEO		NONCORE_M&A		DIVIDEND		REPURCHASE	
	Coefficient	p−Value	Coefficient	p−Value	Coefficient	p−Value	Coefficient	p−Value	Coefficient	p−Value
VALUE_WEIGHTED_DEBT_FRACTION	0.0141***	0.0048	0.0067	0.2730	0.0115	0.4610	−0.0100***	0.0000	−0.0122***	0.0000
VALUE_WEIGHTED_DEBT_FRACTION × DISTRESS_(0,1)	0.0361**	0.0109	0.0167**	0.0428	−0.0322**	0.0229	−0.0074***	0.0018	−0.0096***	0.0056
ln(MARKET_CAP)	−0.0005	0.1339	0.0008	0.1683	0.0041***	0.0000	−0.0003	0.2266	0.0000	0.9027
MARKET_TO_BOOK	0.0005	0.3174	0.0029***	0.0000	−0.0013	0.2426	0.0027***	0.0000	0.0041***	0.0000
LEVERAGE	0.0124***	0.0001	0.0074	0.1081	0.0146	0.0878	0.0055	0.0103	−0.0001	0.9756
ROA	0.1069***	0.0000	−0.0802***	0.0000	0.0687***	0.0000	0.0585***	0.0000	0.1093***	0.0000

(continued on next page)

TABLE 8 (continued)

Panel B. The Effects of Debt Holdings on Firm Investment and Payout Policy (continued)

| | Model 1 | | Model 2 | | Model 3 | | Model 4 | | Model 5 | |
| | CAPEX | | SEO | | NONCORE_M&A | | DIVIDEND | | REPURCHASE | |
	Coefficient	p−Value	Coefficient	p−Value	Coefficient	p−Value	Coefficient	p−Value	Coefficient	p−Value
FIRM_AGE	−0.0045***	0.0000	−0.0114***	0.0000	−0.0011	0.5438	0.0033***	0.0000	0.0011**	0.0149
INSTITUTIONAL_BLOCK_OWNERSHIP	−0.0014	0.6114	0.0049	0.3901	−0.0129**	0.0346	−0.0038**	0.0418	0.0047**	0.0227
BIG_HOLDING_(0,1)	0.0031***	0.0091	−0.0003	0.8622	0.0047	0.1841	0.0003	0.6828	0.0042***	0.0000
NUMBER_OF_FUNDS_IN_THE_FAMILY	−0.0031***	0.0053	−0.0098***	0.0000	0.0004	0.9120	0.0020**	0.0100	0.0087***	0.0000
DISTRESS_(0,1)	−0.0037**	0.0219	−0.0154**	0.0184	−0.0132***	0.0003	−0.0040***	0.0000	0.0002	0.8117
Intercept	0.0353***	0.0000	0.0610***	0.0000	0.3829**	0.0393	−0.0028	0.8088	−0.0377***	0.0000
N	12,327		12,327		12,327		12,327		12,327	
Adj. R^2	0.3621		0.0397		0.0186		0.0742		0.1621	

Panel C. The Effects of Voting on Firm Policy

| | Model 1 | | Model 2 | | Model 3 | | Model 4 | | Model 5 | |
| | CAPEX | | SEO | | NONCORE_M&A | | DIVIDEND | | REPURCHASE | |
	Coefficient	p−Value	Coefficient	p−Value	Coefficient	p−Value	Coefficient	p−Value	Coefficient	p−Value
FRACTION_OF_VOTES_WITH_CREDITORS	0.0008	0.2778	0.0018***	0.0008	−0.0216**	0.0387	−0.0005	0.8139	−0.0019**	0.0257
FRACTION_OF_VOTES_WITH_CREDITORS × DISTRESS_(0,1)	0.0405***	0.0000	0.0170***	0.0000	−0.0291**	0.0302	−0.0049**	0.0279	−0.0039**	0.0128
ln(MARKET_CAP)	0.0000	0.6711	0.0001**	0.0275	0.0040***	0.0000	−0.0004	0.1246	−0.0001	0.6966
MARKET_TO_BOOK	0.0000	0.7832	0.0002***	0.0001	−0.0013	0.2120	0.0028***	0.0000	0.0021***	0.0000
LEVERAGE	0.0037***	0.0000	0.0003	0.4159	0.0181	0.0285	0.0031	0.1079	−0.0015	0.2303
ROA	0.0309***	0.0000	−0.0076***	0.0000	0.0700***	0.0000	0.0594***	0.0000	0.0552***	0.0000
FIRM_AGE	−0.0004**	0.0126	−0.0005***	0.0000	−0.0018	0.3386	0.0032***	0.0000	0.0004**	0.0418
INSTITUTIONAL_BLOCK_OWNERSHIP	−0.0010**	0.0212	0.0002	0.5266	−0.0125*	0.0503	−0.0038*	0.0562	0.0024**	0.0137
BIG_HOLDING_(0,1)	0.0005*	0.0912	−0.0002	0.1050	0.0049	0.1688	0.0004	0.5418	0.0022***	0.0000
NUMBER_OF_FUNDS_IN_THE_FAMILY	−0.0003	0.4248	−0.0005***	0.0001	0.0002	0.9481	0.0017**	0.0263	0.0041***	0.0000
DISTRESS_(0,1)	−0.0016**	0.0168	−0.0007	0.2287	−0.0145***	0.0000	−0.0036***	0.0000	0.0004	0.3424
Intercept	0.0051**	0.0276	0.0027***	0.0000	0.3865**	0.0373	−0.0009	0.9389	−0.0176***	0.0000
N	12,327		12,327		12,327		12,327		12,327	
Adj. R^2	0.4962		0.2042		0.0203		0.0735		0.1622	

associated with a 0.55% increase in capital expenditure, a 0.25% increase in SEO, a 0.49% decrease in the probability of making a noncore acquisition, a 0.11% decrease in dividends, and a 0.15% decrease in share repurchases. This is equivalent to a 13.8 percentage point increase in capital expenditure, a 14.1 percentage point increase in SEO, a 23.9 percentage point decrease in the probability of making a noncore acquisition, an 11.1 percentage point decrease in dividends, and a 10.5 percentage point decrease in share repurchases, respectively, from their corresponding sample mean.

C.   The Importance of the Voting Channel on Firm Policy as a Result of Debt Holdings

Having established the total effect of joint debt equity holdings on policy, we are now in a position to examine how much of this total effect is attributable to voting policy. Panel C of Table 8 relates the overall voting policy by fund families to firm investment and payout policy. To measure the fraction of votes in the interest of creditors on all conflict proposals, we calculate first the fraction of votes in the interest of creditors for each fund family across each conflict proposal category. We then average the fraction of votes in the interest of creditors for each fund family across all conflict proposal categories. After calculating the fraction voted in the interest of creditors for a given fund family in a firm in a given year, we calculate an equity-value weighted average fraction of votes in the interest of creditors across fund families in a firm in a given year. We use the same controls as in Panel B of Table 8 and also interact the fraction of votes in support of creditors with the distress dummy variable. Overall the results show that the greater the fraction of votes in the interests of creditors in a given firm, the greater the extent to which the firm acts in the interests of debtholders in both its investment and payout policies. This clearly highlights that the voting channel plays an economically important role in the governance of firms.

Comparing these findings in Panel C with the results in Panel B of Table 8 offers a rough estimate of the relative importance of public versus private engagement in the governance of firms. As previously estimated from model 4 of Panel A in Table 3, a 1-standard-deviation increase in FAMILY_DEBT_FRACTION is associated with an increase of 2.8% in the fraction of votes in the interest of creditors. Using the coefficient estimates in Panel C in Table 8, such a 2.8% increase in the fraction of votes in the interest of creditors is then associated with a 0.11% increase in capital expenditure, a 0.05% increase in SEO, a 0.08% decrease in the probability of making a noncore acquisition, a 0.01% decrease in dividends, and a 0.01% decrease in share repurchases. Compared to the economic effects from Panel B in Table 8, those from Panel C represent 21% for capital expenditure, 19% for SEOs, 17% for M&As, 12% for dividends, and 8% for share repurchases, respectively. Overall, the economic significance of voting on corporate investment is about one fifth of the total effect of debt holdings on investment while the economic significance of voting on payout policy is one tenth of the total effect of debt holdings on payout. This suggests that corporate investment is more affected by voting (i.e. public engagement), while payout policy is mostly the result of institutional investors' private rather than public engagement.

D.   Additional Analyses

In Section IV.B, we show that the channel through which the debt holdings of institutional investors affect voting is through active rather than passive funds and through funds holding long-term debt rather than short-term. In this section, we examine if firm policy is associated with debt holdings by active funds rather than passive and long-term debt holdings rather than short-term. We find that firm policy is only affected by debt holdings by active funds and long-term debt holdings, not by passive funds' debt holdings or short-term debt holdings.

We follow the same method in Section V.C to examine the importance of the voting channel on firm policy as a result of debt holdings by active funds and of long-term debt holdings. We find that the economic significance of voting on corporate investment is about one fourth of the total effect of debt holdings by active funds on investment while the economic significance of voting on payout policy is one fifth of the total effect of debt holdings by active funds on payout. Similarly, the economic significance of voting on corporate investment is about one third of the total effect of long-term debt holdings on investment while the economic significance of voting on payout policy is one fourth of the total effect of long-term debt holdings by active funds on payout. Overall these results suggest that the voting channel plays a more important role on firm policy as a result of debt holdings by active funds or with long maturity.

VI.   Robustness Tests

In this section, we provide a number of robustness checks and report their results in Table 9. First, we adopt alternative measures of financial distress. Then, we try different measures of debt holdings at the fund family level. Next, we exclude funds that only hold debt or only hold equity, as may be different from those that hold both debt and equity. Finally, we consider the effects of nonfinancial firms and those funds without credit default swap contracts.

A.   Alternative Measures of Financial Distress

Our results show that the debt fraction of institutional investors influences voting and firm policy to a greater extent when the firm is in financial distress. For this purpose, the definition of financial distress is important. So far, we have classified firms as being in financial distress according to the Bharath and Shumway (2008) distance to default measure and we define DISTRESS_(0,1) in this case to be 1 if the firm's default probability is at least 75% in the year concerned, and 0 otherwise. However, it is interesting to examine whether our results are robust to the use of alternative measures of financial distress.

Our first alternative measure of financial distress follows the Opler and Titman (1994) definition. Specifically, for each year, a 3-digit SIC code industry is in financial distress if the median sales growth is negative and the median stock return is below -30%. We define a firm as being in financial distress if the 3-digit SIC industry, to which it belongs, is experiencing financial distress in that year. As argued by Gopalan and Xie (2011), an advantage of using this distress measure is that these distress episodes are unexpected. Using this definition, 4.74% of the

TABLE 9

Robustness Tests

Table 9 reports the robustness tests of the main analysis of fund debt holdings on voting as in model 2 of Panel A, Table 3. Panel A shows the results using alternative measures of financial distress: industry distress and debt rating. First, we define DISTRESS_(0,1) to be 1 if the 3-digit SIC industry a firm is in is experiencing financial distress in that year, and 0 otherwise. Based on Opler and Titman (1994), a 3-digit SIC code industry is in financial distress if the median sales growth is negative and the median stock return is below -30%. Second, we define DISTRESS_(0,1) to be 1 if the firm's debt rating is CCC and below in the year concerned, and 0 otherwise. Panel B shows the results using the fraction of funds that hold debt in a fund family to measure the average importance of debt for fund families. We calculate the value of equity vs debt owned by each fund in each year across all firms to categorize each fund into debt, equity, or mixed. If the fund owns at least 95% of its holding as debt (equity) then we classify it as a debt (equity) fund. Debt fraction at the family level for debt and mixed funds (debt funds) is the proportion of the number of debt and mixed funds (debt funds) in the total number of funds in the family. Panel C shows the results when we include only fund families holding both debt and equity in a particular year. Panel D shows the results when we exclude firms in the financial industry (with 4-digit SIC codes starting with 6). Panel E shows the results when we exclude funds holding credit default swap contracts. All other variables are defined in the Appendix. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Panel A. Alternative Measures of Financial Distress

Regression Coefficient and p-Value for FAMILY_DEBT_FRACTION × DISTRESS_(0,1)	Industry in Distress			Debt Rating		
	N	Coefficient	p-Value	N	Coefficient	p-Value
VOTE_WITH_CREDITORS_(0,1)	61,345	0.1998**	0.0307	40,443	0.1534**	0.0102

Panel B. Using the Proportion of the Number of Debt Funds in the Family as Debt Fraction

Summary Statistics	Debt & Mixed Funds		Debt Funds	
	N	Mean [Median]	N	Mean [Median]
FAMILY_DEBT_FRACTION	52,745	0.0483 [0.0000]	52,745	0.0123 [0.0000]
FAMILY_DEBT_FRACTION conditional on family debt holding	7,589	0.3389 [0.2500]	2,803	0.2335 [0.2000]

Regression Coefficient and p-Value for FAMILY_DEBT_FRACTION × DISTRESS_(0,1)		Debt & Mixed Funds		Debt Funds Only	
	N	Coefficient	p-Value	Coefficient	p-Value
VOTE_WITH_CREDITORS_(0,1)	52,745	0.1504**	0.0407	0.1696**	0.0224

Panel C. Including only Fund Families Holding both Debt and Equity in the Firm

Summary Statistics	N	Mean [Median]
FAMILY_DEBT_FRACTION	7,136	0.2945 [0.1489]

Regression Coefficient and p-Value for FAMILY_DEBT_FRACTION × DISTRESS_(0,1)	N	Coefficient	p-Value
VOTE_WITH_CREDITORS_(0,1)	7,136	0.1927**	0.0124

Panel D. Excluding Financial Companies

Summary Statistics	N	Mean [Median]
FAMILY_DEBT_FRACTION	42,681	0.0390 [0.0000]
FAMILY_DEBT_FRACTION conditional on family debt holding	5,586	0.2978 [0.1509]

Regression Coefficient and p-Value for FAMILY_DEBT_FRACTION × DISTRESS_(0,1)	N	Coefficient	p-Value
VOTE_WITH_CREDITORS_(0,1)	42,681	0.2092***	0.0015

Panel E. Excluding Funds with Credit Default Swap

Summary Statistics	N	Mean [Median]
FAMILY_DEBT_FRACTION	52,745	0.0326 [0.0000]
FAMILY_DEBT_FRACTION conditional on family debt holding	6,307	0.2749 [0.1307]

Regression Coefficient and p-Value for FAMILY_DEBT_FRACTION × DISTRESS_(0,1)	N	Coefficient	p-Value
VOTE_WITH_CREDITORS_(0,1)	52,745	0.1734**	0.0265

observations in our voting sample are in distress. As our second alternative measure of financial distress, we classify a firm in financial distress if its debt rating is CCC and below in the year concerned. For the 40,443 voting observations for which we can obtain ratings data, financial distress is restricted to 0.79% of the observations. Panel A of Table 9 reports the effect of our alternative definitions of financial distress on our results. It shows that when we interact debt fraction with our alternative definitions of financial distress, we still get a significant effect of this interaction on voting policy, which suggests that our findings are robust to variations in our definitions of financial distress.

B.   Alternative Measures of Family Debt Fraction

We currently calculate FAMILY_DEBT_FRACTION as the total value of debt held by a fund family divided by the total value of debt and equity that it holds. An alternative way to measure the importance of the interests of debt for the fund family concerned is to calculate the fraction of funds that are not pure equity funds in a fund family but are either pure debt funds or are mixed equity and debt funds: Both these types of funds should care about the interests of debt relative to pure equity funds. We calculate the value of equity and debt owned by each fund in each year across all firms to categorize each fund into debt, equity, or mixed. We classify a pure equity (debt) fund as having at least 95% of its holdings in equity (debt); while we consider all other funds as mixed. In the database of 21,630 fund year observations, we have 4,413 pure debt funds (20.54%), 15,164 pure equity funds (70.11%) and 2,023 (9.35%) mixed funds. Panel B of Table 9 presents our results where we use the proportion of debt funds in the family as the debt fraction, with this proportion being either the proportion of debt and mixed funds or the proportion of pure debt funds. We find that voting policy is still significantly affected by the debt fraction interacted with financial distress as was the case in our main voting results. These findings indicate that our results are robust to the way we measure the family debt fraction.

C.   Families Holding both Debt and Equity

It might be argued that our results are driven by fund families with no debt. For example, if these fund families exhibit voting behavior that is strongly in the interests of equity, this may help to validate our findings. To test this we exclude these fund families from our sample. The results are reported in Panel C of Table 9. We find that the value weighted debt fraction interacted with distress still has a significant effect on voting policy even when we focus only on fund families that hold both debt and equity.

D.   Excluding Financial Companies

As financial companies operate in different ways to nonfinancial companies, we examine the effect of excluding financial companies from our analysis. The results of doing so are presented in Panel D of Table 9. We find that there is no material effect of excluding financial companies on the link between the debt fraction of fund families and voting policy. This indicates that our voting analysis is unaffected by excluding financial companies.

E.   Excluding Funds that Hold Credit Default Swap Contracts

If fund families hold CDS contracts that hedge the credit risk in their debt positions, they may be less likely to vote in the interests of debt and to push firms to act in a manner that favors creditors. The fact that our main results are robust to the inclusion of holdings of CDS contracts suggests that we may be underestimating the role of debt holdings in influencing voting and firm behavior. As a further check to explore if removing these CDS holdings has any influence on our results, in Panel E of Table 9 we exclude fund-years in which funds hold CDS contracts and find barely noticeable changes.[6]

VII.   Conclusion

Focusing on the effect of debt holding of mutual funds on voting and showing that this voting affects firm policy are the key contributions of this paper. This is an important extension to the existing literature, which has focused so far on the equity holdings of these investors.

Using data on the universe of U.S. based mutual funds, we find that it is common for mutual fund families to hold also the corporate debt of firms in which they have equity stakes. In these cases the fund family is more likely to vote in the interests of debtholders when considering a proposal in which there is a conflict between debt and equity, such as dividend policy, equity issues and share repurchases, anti-takeover provisions, executive compensation, and restructuring activities, when close to financial distress. Interestingly, we find no significant difference in voting patterns across mutual fund families when examining proposals that are associated with no conflict of interest, like director elections.

Institutional investors can influence firms via voting or through direct engagement. We test the relative importance of the voting channel as the channel through which debt equity holdings affect firm policy. While the literature has shown that there is a link between the debt equity holdings of institutional investors and firm policy, our contribution is to show that an important part of this link is due to voting. Our findings indicate that debt holdings change the way institutional investors vote and generally engage with portfolio firms. Hence, they should not be ignored when examining the governance role of institutional investors.

Appendix. Variable Definitions

Family Level Variables

FAMILY_DEBT_FRACTION is the sum of investment in bonds across all funds of the family in a firm in a year divided by the sum of investment in bonds and equity across all funds of the family in the firm in the year.

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[6]We have 285 funds holding CDS positions in our database. It should be recognized that despite excluding fund-years where funds hold CDS contracts that we still have the same number of fund family-firm-year observations without this exclusion, because this does not cause any fund families to drop out.

BIG_HOLDING_(0,1) is 1 if the investment of the fund family in the firm concerned is above the size of its 75th percentile investment in the year concerned, and 0 otherwise.

NUMBER_OF_FUNDS_IN_THE_FAMILY is the natural logarithm of the number of individual funds owned by the fund family.

Firm Level Variables

VALUE_WEIGHTED_DEBT_FRACTION is the value weighted debt fraction by all families in a firm in a year with the weight being family's investment (sum of both debt and equity) in the firm. Debt fraction at the family level is the proportion of investment in bonds in total investment in bonds and equity for all funds in the family.

DISTRESS_(0,1) is 1 if the firm's default probability is at least 75% in the year concerned and 0 otherwise. We measure a firm's default probability using the distance to default proposed by Bharath and Shumway (2008).

MARKET_CAP is the market value of equity of the firm at the fiscal year end date, defined as the number of common shares outstanding (CSHO) multiplied by the share price at the end of the year (PRCC_F).

MARKET_TO_BOOK is the market value of assets (PRCC_F × CSHO) divided by the book value of assets (AT).

LEVERAGE is the book value of debt, given by the sum of long-term debt (DLTT) and debt in current liabilities (DLC), divided by the sum of book value of debt and market value of equity (DLTT + DLC + PRCC_F × CSHO).

ROA is the operating income before depreciation (OIBDP) divided by the beginning book value of assets (AT).

FIRM_AGE is the number of years since the IPO date (or the first CRSP date if IPO date is missing).

INSTITUTIONAL_BLOCK_OWNERSHIP is the total number of shares owned by all institutional blockholders (at least 5% ownership in the firm) on the firm's total shares outstanding.

FRACTION_OF_VOTES_WITH_CREDITORS: We calculate first the fraction of votes in the interest of creditors for each fund family across each conflict proposal category, then average the fraction of votes in the interest of creditors for each fund family across all conflict proposal categories, and finally calculate an equity-value weighted average fraction of votes in the interest of creditors across fund families in a firm in a given year.

CAPEX is the firm's capital expenditure (CAPX) divided by its total assets (AT) (set to 0 if missing).

SEO is the proceeds from seasoned equity offering (from SDC) divided by the firm's total assets (AT) (set to 0 if missing).

NONCORE_M&A is 1 if the firm make a noncore acquisition (in which the target and the acquirer are not in the same 2-digit SIC), and 0 otherwise.

DIVIDEND is the firm's dividends (DVT) divided by its total assets (AT) (set to 0 if missing).

REPURCHASE is the firm's share repurchase (PRSTKC) scaled by its total assets (AT) (set to 0 if missing).

Vote Level Variables

VOTE_WITH_CREDITORS_(0,1) is 1 if a given fund family cast more than 50% of the votes of its funds in favor of creditors for the conflict proposal concerned in which there is a conflict of interest between debtholders and equity holders, and 0 otherwise.

ISS_WITH_CREDITORS_(0,1) is 1 if the voting recommendation by ISS on a proposal is in the interest of creditors, and 0 otherwise.

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