Debt-equity Conflicts and Efficiency of Distressed Firms: Evidence from Japanese Banker-directors*

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Abstract

This study provides direct evidence of the association between debt-equity conflict and investment efficiency in financially distressed firms. Leveraging a unique institutional setting in Japan, we examine the impact of lender-affiliated directors on the managerial decisions of their borrowers. Although banker-directors do not influence firms at low risks of default, their presence leads to more conservative financial decisions in distressed firms, thereby mitigating shareholder exploitation. They also reduce information frictions to prevent overinvestment and underinvestment. However, despite within-firm efficiency gains, potential spillover effects on other stakeholders raise questions about the broader welfare implications of this debt-equity conflict mitigation.

Keywords: debt-equity conflict, financial distress, banker-directors, investment efficiency, stakeholder

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I. Introduction

Researchers and policymakers have long debated the relative significance of supply-side versus demand-side frictions in facilitating economic recovery from severe slumps. Although dampened demand received greater attention during the US subprime crisis, the slow recoveries of Japan and Europe were also attributed to supply-side frictions stemming from the financial distress of corporations, which adversely affected their investment efficiency and suppressed the aggregate economy.[1] Moreover, the recent COVID-19 pandemic further shifted attention towards supply factors by bringing an economic pause of unknown length within an otherwise stable economy (Brunnermeier and Krishnamurthy 2020).

The well-known conflict between debt and equity is a primary source of friction that distorts financially distressed firms' investment decisions (Myers 2001). As default risk increases, shareholders may make inefficient investment choices to benefit themselves at the expense of creditors (Jensen and Meckling 1976, Myers 1977). In theory, mitigating this conflict should enhance investment efficiency and firm value. However, surprisingly, there has been relatively limited empirical evidence that directly supports this prediction, especially at the micro-level, as researchers typically do not observe variations in debt-equity conflicts among all-else-equal firms.[2]

Our study aims to overcome this limitation by leveraging a unique institution in Japan, where bankers affiliated with lenders can assume director roles in borrowing firms to monitor

[1] See e.g., Lamont (1995) and Kalemli-Özcan et al. (2022) for corporate debt overhang and consequent underinvestment. Additionally, see e.g., Peek and Rosengren (2005), Caballero et al. (2008), and Acharya et al. (2022) for the perverse impact of zombie firms and their overinvestment.

[2] In many jurisdictions, management is primarily obligated to serve shareholders, and the control shifts only after default. As a result, researchers often face difficulties in observing explicit variations in the strength of creditor control for distressed yet solvent firms. Some exceptions addressing this challenge include Becker and Strömberg (2012) utilizing legislative changes that allow managers of distressed firms to take actions favoring creditors, and Chava and Roberts (2008) examining the impact of debt covenant violation on corporate investment using a regression discontinuity design.

managerial decisions that may harm creditors. We identify such "banker-directors" by combining listed firms' employment history data and loan information and investigate their association with borrowers' investment efficiency during the Japanese "lost decade," characterized by a long-lasting economic slump beginning with the asset bubble collapse in late 1991.

Moreover, we distinguish between types of inefficiencies and when they are likely to occur. Debt-equity conflict arises only when a significant risk of default exists, leading to the distortion primarily observed in distressed firms (Myers 2001). Therefore, if banker-directors represent debt holders' interests, their presence would result in differential outcomes among distressed firms but not necessarily among healthy firms. Furthermore, agency frictions within distressed firms may result in underinvestment when they forego profitable investment opportunities (Myers 1977), whereas overinvestment can occur when they undertake risky, negative net-present value (NPV) projects facing a lack of desirable investment options (Jensen and Meckling 1976). Prior empirical studies have generally either failed to clarify these distinctions or limited their scope to only one of the inefficiencies.

Using the ratio of banker-directors to board size as the main variable, we first confirm that the presence of banker-directors is associated with more "debt-friendly" decisions when firms encounter financial distress. Specifically, they prioritize cutting dividends while ensuring interest payments and securing additional working capital (e.g., Kroszner and Strahan 1996). In contrast, as predicted, banker-directors have no impact on these variables in the absence of financial distress.

However, this debt-friendliness does not necessarily indicate reduced conflict between debt and equity holders or improved efficiency. If the engagement of banker-directors is *overly* conservative, it could exacerbate the conflict and further decrease firm value (e.g., Morck and

Nakamura 1999, Kang and Stulz 2000). Therefore, in our subsequent analysis, we specifically analyze the relationship between banker-directors and investment efficiency.

As discussed earlier, we differentiate between two investment inefficiencies expected in firms at high default risk (Parrino and Weisbach 1999, Myers 2001): underinvestment resulting from debt overhang and overinvestment stemming from asset substitution. We distinguish firms with and without profitable investment opportunities, based on their Tobin's Q or sales growth. When experiencing financial distress, the former are likely to face an underinvestment problem (Myers 1977), whereas the latter may encounter an overinvestment problem (Jensen and Meckling 1976).

Based on this premise, we separately assess whether the presence of banker-directors in distressed firms leads to increased investment for the first group and decreased investment for the second group. Our empirical results align with these predictions, showing that the presence of banker-directors significantly alleviates underinvestment problem for the first group and overinvestment problem for the second group, with more pronounced effects for the former.[3]

We acknowledge the potential selection bias associated with the endogenous appointments of banker-directors. Ideally, we would compare firms in which banker-director presence differs under all-else-equal conditions to establish causality, but this is unrealistic. Our estimates could be biased if any confounding factor affects firms' banker-director appointments and investment decisions simultaneously. For instance, firms with banker-directors may fundamentally differ from those without, or firms' financial conditions may be related to the appointment of a banker-director with the necessary expertise, leading to differential investment decisions.

[3] Our sample period is from 1992 to 2007 and includes a prolonged economic slump characterized by a weak investment appetite among highly indebted firms, often referred to as a "balance sheet recession" (Koo 2011).

We address this issue in various ways. First, in identifying banker-directors of a specific borrower, we exclude those affiliated with "dual holders," that is, lenders that also own the borrower's stocks. This exclusion is important because these dual holders typically include "main banks," which tend to appoint more directors as their borrowers' performance deteriorates (Kaplan and Minton 1994, Morck and Nakamura 1999). Indeed, we observe a clear within-firm association between the presence of dual-holder directors and borrowers' financial conditions. However, we find no such association for non-dual-holder directors, i.e., those affiliated with "non-main bank" lenders, which we utilize in our empirical analysis. Furthermore, we observe similarities in typical firm characteristics between firms with and without banker-directors from non-main banks.

Next, we introduce a placebo group consisting of directors affiliated with certain banks that are neither lenders nor shareholders of the firm. These directors should possess similar financial expertise to those affiliated with lenders but are not particularly expected to influence debt-equity conflict. Therefore, the selection bias arising from banker-directors' financial expertise can be differentiated by comparing the outcomes of these two groups. We confirm that, unlike our treatment banker-directors from non-main banks, the placebo directors do not improve distressed firms' investment efficiency. Lastly, we re-estimate our models using matched samples based on relevant firm characteristics, additionally controlling for the presence of main bank directors, or adopting an instrumental variable. Our findings remain robust.

Investigating a specific channel for efficiency gain, our analysis indicates that banker-directors facilitate better monitoring practices, enabling lenders' enhanced information acquisition in turn. The presence of banker-directors is associated with less frequent earnings management, suggesting reduced information frictions between firms and investors (Bushman and Smith 2001).

They also influence the lending decisions of affiliated banks, leading them to provide more loans to firms facing the underinvestment problem, as confirmed by our separate loan-level regression.

Finally, we explore the potential spillover effects on other stakeholders in a firm's supply chain, namely suppliers and customers. The analysis suggests that firms with banker-directors pay their suppliers less (as indicated by decreased COGS to total sales ratios) and "squeeze" more cash from the customers (evidenced by shortened collection periods of credit sales), but again, only when firms are distressed. This squeezing effect is more pronounced for firms that need liquidity or have more bargaining power over their customers. Therefore, although banker-directors mitigate within-firm friction to promote investment efficiency and firm value, they may also negatively affect other stakeholders. This value redistribution among stakeholders can make the overall welfare implications of debt-equity conflict mitigation ambiguous (Shleifer and Summers 1988).

This study provides direct evidence for the association between debt-equity conflict and investment efficiency. Despite well-established theoretical predictions (Jensen and Meckling 1976, Myers 1977), empirical evidence is limited, especially at the micro level, that explicitly documents the actual relationship between the extent of conflict and inefficient investment in distressed firms. This limitation arises from the difficulty researchers face in observing variations in debt-equity conflicts among otherwise similar firms.[4] Prior studies have applied various strategies to address this empirical challenge, such as focusing on legislative changes (e.g., Becker and Strömberg 2012), examining covenant violations (e.g., Chava and Roberts 2008, Roberts and Sufi 2009, Nini

[4] In contrast to the reduced-form studies, structural models identify debt overhang effects under various conditions, such as the presence of macroeconomic risk (e.g., Chen and Manso 2017), additional secured debt (e.g., Hennessy, 2004), and future collateral constraints (e.g., Hennessy et al. 2007). Using Monte Carlo analysis, Parrino and Weisbach (1999) illustrate how both overinvestment and underinvestment can arise depending on the volatility of firms' cash flows and project characteristics.

et al. 2009, and Nini et al. 2012), conducting cross-country comparisons (Jordà et al. 2022), or investigating the influence of "dual holders" who hold both debt and equity of specific firms (e.g., Jiang et al. 2010, Chu 2018, Chava et al. 2019, and Anton and Lin 2020). We utilize the differential presence of banker-directors aiming to prevent shareholder exploitation. Importantly, their influence remains orthogonal to managerial decisions when firms are at low risk of default, which helps mitigate endogeneity concerns regarding their presence being associated with fundamental differences across firms.

When assessing the investment efficiency associated with debt-equity conflicts, previous studies often did not distinguish firms' financial conditions (e.g., Chava and Roberts 2008, Nini et al. 2009, 2012), despite the expectation that debt equity conflict only arises when a firm's default risk becomes significant (Myers 2001). Moreover, many studies have focused solely on either underinvestment or overinvestment (e.g., Chava and Roberts 2008, Becker and Strömberg 2012), when both underinvestment and overinvestment are possible depending on the types of investment opportunities firms face (Parrino and Weisbach 1999, Myers 2001). In contrast, our study exploits the ubiquitous presence of banker directors in Japanese firms, allowing us to carefully distinguish among firms' financial conditions and the availability of profitable investment options and assess the theoretical predictions more accurately.

This study also explores the corporate finance implications of banker-directors. Prior studies have discussed several roles of these directors, including acting as financial experts to facilitate firms' capital market access (e.g., Byrd and Mizruchi 2005), monitoring and influencing managerial decisions to prevent inefficiency (e.g., Kaplan and Minton 1994; Morck and Nakamura 1999; Kroszner and Strahan 2001), and promoting their own business as commercial or investment bankers (e.g., Guner et al. 2008; Dittman et al. 2010; Ferreira and Matos 2012). Focusing on the

second aspect, our study provides micro-level evidence supporting the efficiency gain by mitigating the debt-equity conflict, in contrast to earlier studies that argued for limited benefit in the presence of significant debt-equity conflicts of interest (e.g., Kroszner and Strahan 2001) or the short-termism of creditors (e.g., Morck and Nakamura 1999).

Lastly, this study contributes to the literature on distortionary corporate investments and macroeconomic slump. Previous studies examining the post-bubble Japanese economy or post-crisis Western economies have noted two opposite investment inefficiencies hampering their aggregate recovery: underinvestment by highly indebted firms leading to balance-sheet recessions (e.g., Koo 2011, Giroud and Mueller 2017, Kalemli-Özcan et al. 2022) and overinvestment by zombie firms resulting in deflationary pressure and low growth (e.g., Peek and Rosengren 2005, Caballero et al. 2008, Hoshi and Kashyap 2010, Schivardi et al. 2022, Acharya et al. 2022). Although both types of inefficiencies can arise in financially distressed firms, existing studies usually focus on either one or the other. In contrast, our study provides evidence for both underinvestment and overinvestment within a single setup based on frictions stemming from debt-equity conflict.

II. Data

Our dataset is sourced from various providers. The Development Bank of Japan provides financial data for non-financial firms listed on the Tokyo Stock Exchange. Market value and stock returns data are from Datastream. Firms' annual bank loan data are from the Nikkei Economic Electronic Databank System (NEEDS). Toyo Keizai provides firms' director data, enabling us to trace each director's employment history and previous affiliations. We match the data by ticker and year without imputing missing values. Our sample period begins in 1992, the year when

director data became available, and extends to 2007, which marks the onset of the Global Financial Crisis.

We first construct the dependent variables from annual financial and market data. On average, the data contain approximately 1,600 firms per year. We use *PayoutRatio*, *ΔWorkingCapital*, and *InterestExpense* to assess a firm's debt-friendliness. *PayoutRatio* is measured as dividends divided by a firm's net income or loss.[5] *ΔWorkingCapital* is the first difference of *WorkingCapital*, which is a firm's total current assets minus total current liabilities, all divided by total assets. *InterestExpense* refers to interest expenses and discounts divided by the average debt. We also use *ROA*, *ΔSales*, and *COGS* to assess a firm's operating performance. *ROA* is a firm's operating income or loss divided by its average total assets. *ΔSales* is the first difference of *Sales,* which is the natural logarithm of gross sales. *COGS* is defined as the cost of sales divided by gross sales. We also construct *CAPEX* and *TotalInvestment* to measure a firm's investments. *CAPEX* is an increase in property, plant, and equipment (PP&E) minus a decrease in PP&E minus depreciation divided by one-year lagged total assets. *TotalInvestment* is the sum of *CAPEX* and total research and development costs (*R&D*) divided by one-year lagged total assets.

As additional outcomes, we use *LossAvoidance* and *CollectPeriod*. *LossAvoidance* captures accounting manipulation and is defined as an indicator that takes a value of 1 when a firm reports small positive earnings (net income to total assets below 0.01), following the common criterion used in the accounting literature (e.g., Burgstahler and Dichev 1997, Bhattacharya et al. 2003). *CollectPeriod* measures the average collection period in months and is calculated as twelve

[5] Among our sample, approximately 4,000 observations report negative net earnings (i.e., "net income or loss" is negative). For these cases, we treat *PayoutRatio* as missing, as the dividend payout ratio cannot be properly defined. Notably, around 3,000 of these firms still paid positive dividends despite reporting losses, indicating potentially excessive dividend payments. Our results remain robust when, instead of dropping these observations, we assign them the maximum payout ratio observed in the sample.

times average accounts receivable divided by credit sales. All dependent variables or their underlying variables except for *Sales* and *LossAvoidance* are winsorized at 1% and 99%.

We next construct the control variables. We use *Size*, i.e., the natural logarithm of total assets (000 yen); *LeverageMarket*, i.e., debt divided by the sum of the market value of equity and debt; and *BlockOwnership*, i.e., the accumulated shareholding ratio of principal shareholders.[6] Additionally, in one robustness test, we use *SalesGrowth*, i.e., revenue growth; *CashFlow*, i.e., recurring profits plus depreciation, divided by total assets; and *Intangibles*, i.e., intangible assets divided by total assets. *SalesGrowth* and *CashFlow* are winsorized at 1% and 99%, respectively.

As we are interested in the effect conditional on firms' financial health, we identify their financial distress using the debt-EBITDA ratio (*DebtEBITDA*), winsorized at 1% and 99%, and construct an indicator for a distressed firm following Eisdorfer (2008) and Chava et al. (2019).

We are also interested in the differential effects conditional on the firm's growth opportunities. Thus, we use a firm's Tobin's Q (*TobinsQ*), defined as the market value of equity plus total liabilities divided by total assets, to reflect its growth opportunity (e.g., Lang and Litzenberger 1989, Lang et al. 1996). We winsorize it at 1% and 99%. Then, we define the following indicators: *HighFirmTobinsQ* and *LowFirmTobinsQ*, which take the value of 1 if a firm's *TobinsQ* is greater than 1.5 or less than 1, respectively, to classify firms with high or low growth opportunities.[7]

Moreover, we are interested in the differential effects conditional on various firm characteristics. We construct the indicators *HighFirmCash* for cash-rich firms and *LowFirmCash*

[6] A firm's principal shareholders are its top 12 owners.
[7] We adopt these two thresholds based on those used in government reports, such as by the Ministry of Economy, Trade and Industry (METI), which apply them to the price-to-book ratio (PBR), a measure conceptually similar to Tobin's Q. See, for example, the METI report available at: https://www.meti.go.jp/shingikai/sankoshin/shin_kijiku/pdf/019_04_00.pdf.

for firms facing a liquidity shortage, which take the value of 1 if the cash ratio is in the top or bottom tercile of the sample, respectively. We also construct the indicators *HighFirmSize* for large firms and *LowFirmSize* for small firms, which take the value of 1 if *Size* is greater than or less than 50 billion JPY (around 500 million USD), respectively.[8] Finally, we use the indicator *HighFirmBlock* for firms whose block holders have enough voting power, which takes the value of 1 if the one-year lagged *BlockOwnership* is greater than 2/3.[9]

Our main independent variable of interest is *BD*, derived from the director dataset. *BD* represents the number of directors currently or formerly affiliated with a firm's lending banks, who hold no voting blocks, divided by the firm's board size.[10] Around 12% of samples have at least one such director. A firm's lending banks include those that provide loans to the firm at least once, whereas we obtain the same results using only current lenders (see Appendix Table A.1, columns 5 and 6). In cases where a firm's lending banks involve a merger of multiple banks, directors affiliated with the surviving bank in the merger are considered to be previously affiliated with the bank.

Note that our selection of banker-directors excludes those affiliated with "main banks," which typically own borrowers' stock and play a distinct role in corporate governance in Japan (see, e.g., Jensen 1989, Hoshi, Kashyap, and Scharfstein 1990, and Morck and Nakamura 1999). As we discuss in Section III.C, this exclusion is important to address endogeneity. To separately capture the presence of directors from main banks, we construct *DD*, defined as the number of directors previously affiliated with banks that also hold voting blocks (i.e., directors from "dual-

[8] This threshold is based on classifications used in governmental reports, for example, by the Japan Fair Trade Committee (see https://www.jftc.go.jp/info/nenpou/h02/02070000.html).
[9] The threshold of 2/3 was chosen because a special resolution at a shareholders' meeting requires a two-thirds majority of the voting rights of the shareholders present at the meeting.
[10] Banks hold no voting blocks of the firm if and only if they are not one of the firm's top twelve owners.

holders"), divided by the firm's board size. In addition, for placebo tests, we construct *PD*, defined as the number of directors previously affiliated with banks that have *no* financial stake (neither lenders nor shareholders) in the focal firm, divided by the firm's board size. Around 6% of our sample firms have at least one such director.

Panel A of Table 1 presents the descriptive statistics. The payout ratio is around 50% on average, but it is highly volatile. *ΔWorkingCapital* has an average close to zero, indicating no significant upward or downward trend in *WorkingCapital*. The average interest expense rate is around 2%. Sample firms, on average, achieve an operating income of 4% relative to total assets and allocate 77% of their revenue to cost of sales. Average revenue growth is 0.4% per year, whereas capital expenditure, which is defined as net purchase in property, plant, and equipment minus depreciation (asset purchase - asset divestiture - depreciation), is around 0% of total assets on average.[11] On average, total investment, which is defined as the sum of capital expenditure and R&D expenses, is 1% of total assets. Small positive earnings are reported on average around once in five years, and revenue collection from customers takes around two months. Debt is on average 6.0 times EBITDA, and the average Tobin's Q is 1.28.

Around 20% of our samples have relatively richer growth opportunities (*HighFirmTobinsQ* = 1), whereas around 35% have poor growth opportunities (*LowFirmTobinsQ* = 1).[12] In addition, around 15% have strong block holders (*HighFirmBlock* = 1). The average share of directors previously affiliated with a firm's lending banks that hold no voting blocks is around 1.2%. The corresponding share of directors previously affiliated with banks but not with any investors is around 0.6%. The average *Size* is 17.83, which is equivalent to total assets of

[11] The mean of asset purchase is 5.9% of total assets.
[12] By construction, around one third of the firms face liquidity shortages (*LowFirmCash* = 1) while one third have enough cash (*HighFirmCash* = 1). Moreover, 48% of our samples are categorized as large (*HighFirmSize* = 1) and 52% are categorized as small (*LowFirmSize* = 1).

around 50 billion yen. The average market leverage is 30%. Block holders on average own 49% of the focal firm. *SalesGrowth* and *ΔSales* show similar averages. The average cash flow is 6% of a firm's total assets, whereas intangible assets make up a small portion (around 0.6%) of a firm's total assets.

Panel B of Table 1 reports pairwise correlations among the main variables. Focusing on key differences between main bank directors (*DD*) and non-main bank directors (*BD*), while *BD* is negatively associated with payout ratio and positively with working capital, *DD* shows no significant correlation with these variables. This supports our argument that *BD* promotes creditor-friendly decisions whereas *DD*, given its equity stake, has weaker incentives to prioritize creditors. Additionally, *DD* correlates negatively with ROA and sales growth, and positively with COGS and loss avoidance. These findings align with prior studies of Japan's lost decade(s), which constitutes our sample period. For instance, Morck and Nakamura (1999) show that banks within the same keiretsu as the borrower—typically the main bank—propped up troubled firms rather than enforcing downsizing, and Peek and Rosengren (2005) document how these banks frequently engaged in zombie lending. Consistent with these findings, a higher *DD* is associated with weaker operating performance (i.e., lower sales, higher expenditures, lower asset returns) and poorer accounting quality (i.e., increased loss avoidance). In contrast, *BD* is linked to improved firm performance, suggesting non-main bank directors facilitate restructuring.

III. Main Results

We investigate the influence of directors affiliated with lenders on firms' managerial decisions, focusing on mitigating debt-equity conflicts that arise when firms experience financial distress. We provide evidence that banker-directors are associated with more debt-friendly

decisions in financially distressed firms (Section III.A) and improve investment efficiency in those firms (Section III.B).

III.A Banker-director and financial decisions in distressed firms

In financially sound firms, lenders typically have few concerns about managerial decisions because shareholders, as residual claimants, have an incentive to maximize firm value. However, as a firm's default risk increases, shareholders with limited liability protection may distort decisions in their favor, potentially harming lenders' interests. To address this agency problem, lenders may adopt measures such as loan covenants that provide them with the authority to intervene in case of violation. In certain countries like Japan and Germany, lenders also have the option to appoint directors who can actively monitor and influence the managerial decisions of borrowing firms.

We first investigate whether the presence of such banker-directors leads to more debt-friendly decisions in financially distressed firms. To test this hypothesis, we examine three key variables – dividend payouts, working capital, and interest payments. All else being equal, a director representing lenders' interests is expected to prioritize avoiding default in financially distressed firms. This involves reducing dividend payouts while ensuring that interest payments are met and obtaining additional working capital (Kroszner and Strahan 1996).

Our primary independent variable is *BD*, defined as the number of banker-directors divided by the total board size.[13] When identifying banker-directors for a specific firm, we only consider those associated with a lender that does not hold any equity stake (i.e., does not belong to the top

[13] Our results are robust when we alternatively use an indicator variable that equals 1 if a firm has *any* banker-directors (with no equity stake) on its board. These results are available from the authors upon request. We prefer the use of the ratio variable over the dummy variable since the former provides greater variation.

12 owners) in the firm. This definition ensures the exclusion of banker-directors from "dual-holders" possessing both debt and equity shares in the firm, and their presence is separately accounted for in our regression with the control variable *DD*. These dual-holders typically include so-called "main banks," which have a distinct role in corporate governance in Japan.[14] Moreover, while a banker-director with no equity stake would prioritize the benefits to creditors during periods of financial distress, whether a director affiliated with a dual-holder would consistently make more debt-friendly decisions remains unclear.

Our main specification involves estimating the following panel regression:

$$y_{i,t} = \alpha_i + \alpha_t + \beta BD_{i,t-1} \cdot Healthy_{i,t-1} + \gamma BD_{i,t-1} \cdot Distressed_{i,t-1} + \delta Distressed_{i,t-1} + \eta X_{i,t-1} + \varepsilon_{i,t}, \quad (1)$$

where α_i and α_t are firm and year fixed effects, respectively. $Distressed_{i,t}$ and $Healthy_{i,t}$ are mutually exclusive indicator variables, where $Distressed_{i,t}$ takes the value of 1 if firm i is financially distressed in year t, whereas $Healthy_{i,t}$ takes the value of 1 if the firm is not distressed in that year. Following Chava et al. (2019), $Distressed_{i,t} = 1$ (i.e., $Healthy_{i,t} = 0$) if a firm's debt-EBITDA ratio (*DebtEBITDA*) belongs to the top tercile of the whole sample; otherwise $Distressed_{i,t} = 0$ (i.e., $Healthy_{i,t} = 1$).[15] $X_{i,t}$ denotes the vector of firm-level controls, including *Size, TobinsQ, LeverageMarket, ROA, BlockOwnership*, and *DD.*

[14] See, e.g., Jensen (1989), Aoki (1990), and Hoshi, Kashyap, and Scharfstein (1990) for the roles of main banks in the Japanese banking system. While the main bank-driven keiretsu system historically helped reduce financial frictions and facilitate growth, prior research also highlights their role in delaying restructuring during Japan's prolonged economic slump, particularly for distressed firms (see, e.g., Morck and Nakamura 1999; Peek and Rosengren 2005). Our results suggest that non-main bank directors play a complementary role in addressing this limitation and enhancing efficiency, hence offering new insights into how non-main banks influence corporate governance, especially when the dominant main bank does not actively enforce necessary oversight.

[15] For a robustness check, we use two alternative definitions of financial distress. Specifically, a firm in a given year is designated as distressed if its Altman Z-score falls below 1.81, or if its Altman Z-score falls below 1.81 *and* the alternative Z-score customized for Japanese listed firms, developed by Xu and Zhang (2009), is below the sample median. We obtain consistent results based on these alternative definitions (see Appendix B for this robustness analysis for all major tables).

The coefficients of main interest are β and γ, which capture the effects of banker-directors depending on a firm's financial condition. Given that the debt-equity conflict these directors mitigate is expected to primarily arise when default risk is high, we anticipate a significant γ but an insignificant β. As in Chava et al. (2019), we adopt this specification to explicitly examine whether the effect of banker-directors is null for financially sound firms, and compare it with the significance of the effect for distressed firms.[16] All standard errors are clustered at the firm level.

Table 2 presents the regression results. For the three dependent variables we examine – dividend payout ratio (*PayoutRatio*), working capital (*ΔWorkingCapital*), and interest payment (*InterestExpense*) – the estimates in row 1 indicate that the presence of banker-directors does not significantly affect these variables when the focal firm is not distressed. However, the estimates in row 2 reveal that financially distressed firms with more banker-directors tend to make financially conservative decisions. This is evidenced by smaller dividend payments, increased working capital, and higher interest payments to creditors. These estimates are all statistically significant, and the effects are economically significant.[17] For example, appointing a banker-director to a board of 10 members is associated with a 11 percentage point decrease in the dividend payout ratio, a 1.5 percentage point increase in the change in working capital divided by total assets, and a 0.19 percentage point increase in the interest expenses to total debt ratio. The opposite signs observed

[16] Our preferred specification (1) allows us to assess the influence of banker-directors separately for financially sound and distressed firms. Estimating the effect on sound firms serves as a placebo test, while estimating the effect on distressed firms directly tests our main hypothesis. Since $Distressed_{i,t}$ and $Healthy_{i,t}$ are mutually exclusive indicators, our specification is econometrically equivalent to an alternative model: $y_{i,t} = \alpha_i + \alpha_t + \beta BD_{i,t-1} + \gamma BD_{i,t-1} \cdot Distressed_{i,t-1} + \delta Distressed_{i,t-1} + \eta X_{i,t-1} + \varepsilon_{i,t}$. However, this model does not allow separate assessments of distressed and sound firms, with γ reflecting the relative difference. We report the estimates based on this alternative specification in Appendix C.

[17] We obtain a similar result when excluding the control variables or when using cash instead of working capital as a measure of liquid assets.

for dividend and interest payments suggest that these firms prioritize payments to creditors over shareholders only when having high default risk.

To further investigate the relationship between banker-directors and debt-equity conflicts, we divide our sample firms into two groups. We estimate equation (1) separately for firms with significant block shareholders (*HighFirmBlock*=1), where the top shareholders hold a median stake of 46% and around one-third of these are parent companies, and those without such shareholders (*HighFirmBlock*=0). The influence of a director affiliated with a lender on managerial decisions may be less pronounced when a firm possesses prominent blockholders compared to firms without blockholders.[18] Therefore, we expect the effects observed in Table 2 to be weaker among firms with blockholders and more pronounced among those without.

The estimates presented in Table 3 support this prediction. Consistent with previous findings, banker-directors do not significantly affect sound firms' financial decisions across all dependent variables. However, they do play a role in influencing debt-friendly decisions in distressed firms without prominent blockholders (columns 1 to 3). Notably, in the presence of influential blockholders, banker-directors do not significantly influence these financial decisions (columns 4 to 6).

We further examine how banker-directors' influence varies with the strength of a firm's main bank relationship. Comparing firms with strong main bank relationships—where the main bank (i.e., dual-holder) lends more than 30% of total liabilities—to those with weaker ties, we find that banker-directors' influence is significantly weaker in the former group. This is intuitive since *BD* specifically captures the presence of non-main bank directors. These results are available from the authors upon request.

[18] See, e.g., the survey by Edmans and Holderness (2017) documenting the importance of large blockholders in influencing management.

Our estimates may be subject to bias due to potential selection issues. First, firms with banker-directors on their executive boards may differ fundamentally from those without such directors. Second, banker-director appointments could be linked to a firm's financial condition.[19] However, we find no evidence of such an association in our sample firms. When examining firms from a cross-sectional perspective, we observe similar average firm-level controls regardless of the presence or absence of banker-directors. Additionally, we find no significant correlation between variations in financial distress and the presence of banker-directors. We provide a more comprehensive discussion of this selection issue in Section III.C.

Although banker-directors contribute to the adoption of more debt-friendly decisions in distressed firms, this does not necessarily indicate the mitigation of debt-equity conflict and the promotion of efficiency. Their engagement could potentially be *overly* conservative, which in turn could decrease firm value (e.g., Morck and Nakamura 1999, Kang and Stulz 2000). In such cases, banker-directors may exacerbate debt-equity conflicts. To examine this possibility, we assess the impact on operating performance measures by estimating equation (1) focusing on return on assets (*ROA*), cost of goods sold (*COGS*), and the sales growth rate (*ΔSales*). In this regression, to avoid endogeneity issues, we do not control for *ROA* or *TobinsQ*, as the dependent variables measure profitability and growth trends. Unobserved variations in these trends may correlate with *ROA* or *TobinsQ*, even when lagged by one year.

Table 4 presents the regression results. The estimates indicate that when a firm is financially sound, the presence of banker-directors is associated with a marginally higher *ROA* but

[19] Analyzing Japanese corporations from 1980 to 1988, Kaplan and Minton (1994) find that appointments of outsider directors including ex-bankers increase with poor stock performance or earnings losses. They also find a positive association between outsider-director appointments and bank loan amounts. To address this problem, we focus solely on outsider directors affiliated with non-main bank lenders, excluding those from main banks. See Section III.C for further discussion.

has no significant impact on sales growth or *COGS* (row 1). In contrast, when a firm is financially distressed, banker-directors are associated with a significant improvement in *ROA*, accompanied by higher sales growth and reduced *COGS*.

In summary, banker-directors in distressed firms tend to prioritize payments to lenders and make more conservative financial decisions to avoid default. They also contribute to increased sales growth and improved ROA while reducing production costs. However, such a difference alone does not guarantee successful debt-equity conflict mitigation or an increase in overall firm value. Therefore, we explicitly analyze specific inefficiencies stemming from the conflict, namely underinvestment and overinvestment.

III.B Do banker-directors improve investment efficiency in distressed firms?

We now focus on the two common investment inefficiencies observed in financially distressed firms: underinvestment and overinvestment (Parrino and Weisbach 1999, Myers 2001). Specifically, we investigate the role of banker-directors in mitigating these inefficiencies.

Underinvestment arises from debt overhang, which occurs when a firm's existing debt burden is substantial enough to discourage the implementation of profitable future projects (Myers 1977). Excessive debt makes shareholders hesitant to finance new projects with positive NPVs because a significant portion of the proceeds would go towards debt repayment. Consequently, these firms tend to invest less than what would maximize their firm value, leading to inefficiency.

As discussed in the previous section, banker-directors lead distressed firms to make more debt-friendly decisions, which should mitigate the debt overhang problem. Therefore, for financially distressed firms endowed with profitable investment opportunities, we expect to observe greater investments (i.e., less underinvestment) among those with banker-directors.

To investigate this hypothesis, we focus on a subset of firm-years with a Tobin's Q greater than 1.5 (*HighFirmTobinsQ* = 1). If a high Tobin's Q indicates the availability of profitable investment opportunities, these firms are likely to face the underinvestment problem when experiencing financial distress.

To assess the role of banker-directors in addressing the underinvestment problem, we estimate equation (1) using capital expenditure (*CAPEX*) and total investment amount (*TotalInvestment*) as the dependent variables. If banker-directors effectively mitigate the underinvestment problem in financially distressed firms, we expect a positive and significant coefficient of the interaction between *BD* and *Distressed*. Conversely, for firms with low default risk, we would anticipate an insignificant coefficient of the interaction between *BD* and *Healthy*, as debt-equity conflict would not be a significant concern in these cases.

We present the regression results for these high Tobin's Q firms in columns 1 and 2 of Table 5, which aligns with our predictions. As expected, the presence of banker-directors in financially sound firms has no significant impact on investment decisions (row 1). However, when firms are in financial distress (row 2), the presence of banker-directors is associated with larger investment, particularly for *TotalInvestment* in column 2. This effect is also economically sizable, with the appointment of a banker-director to a firm with a board of 10 members being associated with an increase in the firm's investment by 5% of its total assets. Although the impact on *CAPEX* in column 1 is less significant than that on *TotalInvestment*, it becomes more significant, both statistically and economically, when we adopt the two alternative definitions of financial distress in Panel A of Appendix Table B.3. These results suggest that banker-directors mitigate the underinvestment problem.

Next, we examine whether banker-directors also play a role in preventing overinvestment resulting from debt-equity conflict. In this analysis, we focus on firms that lack high-NPV investment opportunities, i.e., those with low Tobin's Q. While it would be efficient for these firms to refrain from making new investments, financial distress may drive them to switch to riskier projects with low NPVs that primarily benefit shareholders at the expense of debt holders (Jensen and Meckling 1976). If banker-directors effectively monitor and influence managerial decisions to prevent such inefficient investments, we would expect to observe smaller investments (i.e., less overinvestment) among financially distressed firms with banker-directors.

We estimate the same specifications as for the analysis of underinvestment, but this time focusing on a subsample of firm-years whose Tobin's Q is less than 1 (*LowFirmTobinsQ* = 1). Columns 3 and 4 of Table 5 present the estimation results. Note that the estimates in row 2 for the interaction of *BD* and *Distressed* show signs opposite to those in columns 1 and 2. While banker-directors of distressed firms are associated with increased investments for firms with high Tobin's Q, they reduce investments for firms with low Tobin's Q. However, these estimates are insignificant.

This weaker overinvestment mitigation results may be attributed to the use of a high debt-to-EBITDA ratio to identify financial distress. Here, a disciplining effect of debt may occur, whereby a high debt burden limits free cash flows and helps alleviate the overinvestment problem (Jensen 1986). Additionally, our sample period includes the Japanese "balance sheet recession" period, characterized by weak investment appetite among highly indebted firms due to deleveraging pressure (Koo 2011). Given that high debt levels constrain potential overinvestment, banker-directors may have less room to prevent such problems. In fact, we obtain more significant results when adopting alternative definitions of financial distress, as shown in Panel B of Appendix

Table B.3.[20] For financially distressed firms with low Z-scores, and in the absence of profitable investment opportunities, the appointment of a banker-director for a board of 10 members is associated with decreases in capital expenditure and total investment of 1.1% and 1.4% of the total assets, respectively, both statistically significant at the 5 % level. This indicates the mitigation of the overinvestment problem.

III.B.1. Robustness

We perform several robustness checks on the investment efficiency results. First, we employ alternative measures to identify whether firms have profitable investment opportunities. Next, we compare the effects of banker-directors with those of a placebo group consisting of bank-affiliated directors who possess similar financial expertise but exclusively represent shareholders. Finally, we estimate Richardson's (2006) regression specifications to identify abnormal investments.

We begin by introducing alternative measures to identify firms that may experience underinvestment or overinvestment problems when their default risk is high. In our previous analysis, we use Tobin's Q as a proxy for the availability of profitable investment opportunities. To confirm the robustness of our findings, we now adopt two additional criteria: (i) firms with a "growth factor" in the top or bottom tercile of the sample (*HighFirmFactor* = 1 or *LowFirmFactor* = 1), and (ii) firms with a sales growth rate exceeding 5% or falling below 0% (*HighFirmSalesGrowth* = 1 or *LowFirmSalesGrowth* = 1). In the first approach, we define a firm's growth factor as the first principal component of *TobinsQ*, *ROA*, and *SalesGrowth*.[21]

[20] Alternatively, a low level of Tobin's Q may not be an informative proxy of the absence of investment opportunities. The estimates become more significant, both economically and statistically, when we instead use low levels of sales growth as a proxy. See Appendix Table A.1, columns 3 and 4.
[21] The component is positively correlated with each variable.

We evaluate the impact of banker-directors on total investments using these alternative definitions. The estimation results are provided in Appendix Table A.1, which replicates the total investment analysis results presented in Table 5. Specifically, Panel A in columns 1 and 2 displays the outcomes when employing growth factors to identify firms with favorable investment opportunities, for the two classifications of financial distress: one based on *DebtEBITDA* and the other on *ZScore*. Panel B reports the results for firms with unfavorable investment options. Similarly, columns 3 and 4 report the results utilizing sales growth to identify the two firm groups. Our investment efficiency results remain robust across alternative definitions.

Next, we consider a group of 'placebo' directors. While the results above suggest that the presence of banker-directors is associated with more efficient investment decisions in distressed firms, the observed effect may be influenced by factors other than weakened debt-equity conflict, such as bank-affiliated directors' financial expertise (Dittmann et al. 2010).

Hence, we introduce a control group of banker-directors to address this concern. These directors are affiliated with banks that have no direct involvement as a firm's creditors or shareholders. Therefore, their primary responsibility is to represent shareholders, as with other board members, and their presence as placebo directors (denoted as *PD*) is not necessarily linked to the mitigation of debt-equity conflict. However, similar to our focal group of banker-directors, these placebo directors should provide relevant expertise that contributes to a firm's financial performance. By comparing the effects of our treatment group of banker-directors with those of the placebo directors, we can further mitigate the potential selection biases that may arise when financially distressed firms appoint financial experts to their boards.

We re-estimate the regression model from Table 5 by adding interaction terms for placebo directors to compare the effects of both groups. These estimates are presented in Table 6. Focusing

on column 2 where we previously found a significant effect, we observe positive effects for distressed firms (i.e., mitigating underinvestment) only in the presence of banker-directors (row 2). In contrast, the effects with placebo directors are insignificant (row 4). This indicates that banker-directors contribute to improved investment efficiency by mitigating debt-equity conflict, whereas placebo directors do not.

Finally, we use Richardson's (2006) approach to identify "abnormal" investments, which are characterized by deviations from "expected" levels based on growth opportunities and other firm characteristics.[22] To investigate the role of banker-directors in preventing these types of abnormal investments, we first calculate the residuals of the following investment regression:

$$I_{i,t} = \alpha_{industry} + \alpha_t + \beta_1 BookToMarket_{i,t-1} + \beta_2 DebtBook_{i,t-1} + \beta_3 Cash_{i,t-1} + \beta_4 Age_{i,t-1} + \beta_5 Size_{i,t-1} + \beta_6 StockReturn_{i,t-1} + \beta_7 I_{i,t-1} + \varepsilon_{i,t}. \quad (2)$$

The dependent variable $I_{i,t}$ represents the actual investment, which is either *CAPEX* or *TotalInvestment.* The residual term $\varepsilon_{i,t}$ reflects the deviation from the expected level based on fundamental factors, where a positive (negative) deviation indicates overinvestment (underinvestment). Using these deviations, we define three measures of investment inefficiency following Anton and Lin (2020): (i) abnormal investment, equal to $|\varepsilon_{i,t}|$; (ii) overinvestment, equal to $\varepsilon_{i,t}$ if $\varepsilon_{i,t} > 0$, and 0 otherwise; and (iii) underinvestment, equal to $|\varepsilon_{i,t}|$ if $\varepsilon_{i,t} < 0$, and 0 otherwise.[23]

We then include this investment inefficiency measure as a dependent variable in equation (1) to examine the impact of banker-directors on the mitigation of abnormal investments. Here, we

[22] Specifically, we use book to market, leverage, cash holdings, firm listed age, firm size, and annual stock return, lagged by one year, as well as industry and year fixed effects. See Table A.4 of Anton and Lin (2020) for the detailed definition of each variable.

[23] The means (standard deviations) of abnormal investments for *TotalInvestment* and *CAPEX* are 2.4% (2.9%) and 2.4% (3.3%) of total assets, respectively. Those of overinvestments are 1.3% (2.6%) and 1.3% (2.9%), and those of underinvestments are 1.1% (2.1%) and 1.2% (2.3%), respectively.

include the following firm-level controls used in Anton and Lin (2020): *SalesGrowth, CashFlow, Intangibles, PayoutRatio,* and *BlockOwnership*.

Table 7 presents the regression results. Columns 1 and 2 assess the impact of banker-directors on the mitigation of abnormal investment, encompassing both overinvestment and underinvestment, for each investment type (*CAPEX* and *TotalInvestment*). Columns 3 and 4 focus on the effects on overinvestment, whereas columns 5 and 6 analyze the effects on underinvestment. We expected the coefficient for the interaction of *BD* and *Healthy* to be non-significant, while we anticipated a negative and significant coefficient for the interaction of *BD* and *Distressed*. The inefficiency arising from debt-equity conflicts, which banker-directors can mitigate, again primarily manifests when firms are in financial distress.

The first row shows that none of the estimates for *BD*Healthy* differ significantly from 0, either statistically or economically. However, the estimates for *BD*Distressed* in the second row show a more negative effect overall. This finding suggests that banker-directors significantly alleviate abnormal capital expenditure (column 1) and overall abnormal investments (column 2).

When examining overinvestment and underinvestment separately, the presence of banker-directors does not appear to be significantly associated with a reduced frequency of overinvestment decisions, which is consistent with the results in Table 5. In contrast, their presence seems to prevent underinvestment decisions, again supporting our previous findings. The coefficients of *BD*Distressed* are negative and significant in columns 5 and 6.

III.C Addressing confounding factors

In this section, we investigate the factors that could introduce bias into our estimates. Our primary focus is on addressing the possibility of selection bias, which may arise if firms with

banker-directors have inherently different characteristics, performance, or operations compared to those without. For instance, banker-director appointments can be endogenous, resulting from borrowers' deteriorating performance, necessitating restructuring.

First, our selection of banker-directors excludes those affiliated with the main banks that also hold borrowers' stocks, focusing solely on those from non-main banks with no equity stakes. Prior studies show that main banks in Japan play a distinct role in corporate governance, including director appointments for corporate restructuring (Jensen 1989, Hoshi, Kashyap, and Scharfstein 1990, Kaplan and Minton 1994, and Morck and Nakamura 1999). Consistent with this, the presence of main-bank affiliated directors (i.e., "dual-holder" directors) differs significantly between financially distressed and healthy firms in our sample, with the former having more such directors (Figure 1, Panel B). In contrast, the likelihood of having banker-directors from non-main banks is similar for distressed and healthy firms (Figure 1, Panel A). Figure A.1 in the appendix further examines whether this pattern appears consistently over the sample period by plotting annual distributions, where we found it to be robust.[24] Furthermore, our main independent variable, *BD*, which captures the presence of these non-main bank directors, has a similar average value across all the subgroups we compare in our analysis, as reported in the respective tables. These results suggest that the appointment of non-main bank directors depends less on borrowers' conditions. In an unreported regression, we include *DD*Healthy* and *DD*Distressed* to control for the influence of dual-holder directors conditioning on firms' financial conditions. The estimates

[24] Since 2001, we observe a secular decrease in the fraction of firms with dual-holder directors, while the fraction with banker directors (holding no equity stake) increases. This shift may reflect the enactment of the 2001 Act on Limitation on Shareholding by Banks and Other Financial Institutions, which limited banks' stock holdings and led to the liquidation of some borrower stocks. Although this shift may weaken the influence of main banks in general, we attempt to control for this trend in our regressions by including time fixed effects and DD.

of interest (for *BD*Healthy* and *BD*Distressed*) remain quantitatively similar to those in the main tables.

We also find similarities in typical firm characteristics between firms with and without banker-directors (Appendix Table A.2). To assess covariate balance, we compare their normalized difference using the approach proposed by Imbens and Wooldridge (2009). The results show no significant differences in any of these characteristics.[25] Moreover, as shown in earlier sections, the presence of banker-directors had no differential effects on firms when they are financially sound. This null effect further alleviates concerns regarding the inherent differences between firms with and without banker-directors.

To address this selection issue further, we employ a matched sample approach. Specifically, among all firms that have appointed banker-directors at least once, we identify corresponding firms from the group that has no history of banker-director appointments (referred to as "never takers"). The matching process is conducted based on the nearest Euclidean distance.[26] The estimation results based on the matched samples are presented in Appendix Table D.1 and are consistent with the results of our previous analyses. Additionally, we employ an instrumental variable for the presence of banker-directors (BD) using the lagged variable of BD following Boone et al. (2007). The estimation results, presented in Table D.2, are consistent with those of our previous analyses, further supporting our findings.

Finally, we conduct a subsample analysis excluding the financial "big bang" period, which was characterized by substantial reforms and consolidation in the banking industry. Appendix

[25] Specifically, we assess whether the absolute value of the mean difference between the two groups, scaled by the square root of the average of the two within-group variances, exceeds a rule-of-thumb criterion for each covariate. The rule-of-thumb criterion, typically set to 0.20-0.25 (e.g., Imbens and Rubin 2015; Rosenbaum and Rubin 1985), helps determine the magnitude of differences that would be considered substantial.

[26] We match with replacement based on the average *Sales, Size, TobinsQ, LeverageMarket, ROA*, and *BlockOwnership*.

Table D.4 presents estimates based on observations excluding the period from 1997 to 2001, showing that the results remain robust.

IV. Channel

In this section, we examine the specific mechanisms through which banker-directors help promote investment efficiency. Our focus is on highlighting the role of banker-directors in facilitating better monitoring practices, which enables lenders to obtain enhanced information in turn. To verify this mechanism, we examine the effects of banker-directors on a firm's accounting quality and the lending decisions of banks associated with these directors.

High-quality accounting reduces information asymmetry between firms and investors, thereby promoting investment efficiency (Bushman and Smith 2001, Biddle and Hilary 2006, Biddle et al. 2009). If banker-directors effectively monitor managerial decisions and prevent distortion in financially distressed firms, their presence should be associated with less frequent earnings management by these firms.

To test this hypothesis, we re-estimate equation (1) using the dependent variable *LossAvoidance*. This variable serves as a proxy for accounting manipulation because Japanese firms tend to avoid reporting losses, whereas U.S. firms are more likely to avoid earnings decreases (Fujiyama et al. 2014). This indicator variable takes the value of one when a firm reports unnaturally small positive earnings. We adopt the commonly used threshold of net income to total assets below 0.01, a criterion frequently employed in the accounting literature (e.g., Bhattacharya et al., 2003). This threshold is based on empirical findings showing an abnormal clustering of observations in the range between 0 and 0.01 for net income to total assets (Burgstahler and Dichev, 1997). Consistent with our prediction, the estimates in Table 8 demonstrate that banker-directors

prevent earnings management in financially distressed firms, suggesting the mitigation of information frictions.

Banker-directors' role in mitigating debt-equity conflict and providing better monitoring can also affect affiliated banks' lending decisions. This becomes particularly relevant for distressed firms facing debt overhang and underinvestment because banks with director representation on the board may be more inclined to lend and support new investments (Ferreira and Matos 2012). To examine this credit supply effect, we utilize individual loan data from Nikkei NEEDS and construct panel data at the bank-firm-year level. We focus on banks with total loans exceeding 1 trillion JPY (approximately 10 billion USD) in a given year, excluding small lenders with limited within-bank variation.

Focusing on firms with high Tobin's Q, which are more likely to face underinvestment problems when financially distressed, we estimate the following panel regression:

$$NewLoan_{i,b,t} = \alpha_{i,t} + \alpha_{b,t} + \alpha_{i,b} + \beta Lender\_withBD_{i,b,t-1} \cdot Healthy_{i,t-1} + \gamma Lender\_withBD_{i,b,t-1} \cdot Distressed_{i,t-1} + \varepsilon_{i,b,t}, \quad (3)$$

where the dependent variable $NewLoan_{i,b,t}$ is defined as the change in the loan amount from bank b to firm i from the previous year, divided by firm i's total assets in the previous year. $Lender\_withBD_{i,b,t}$ is a dummy variable that takes the value of one if bank b lending to firm i (without holding equity) has a director on firm i's board in that year, and zero otherwise. We saturate the model with firm-year, bank-year, and firm-bank fixed effects, which respectively absorb any demand-side effects, time-varying bank characteristics, and time-invariant firm-bank specific characteristics such as relationships. With these fixed effects, the coefficients β and γ capture credit supply decisions by the banks that have directors on the borrowers' boards, conditioning on the borrowers' financial soundness.

Table 9 presents the estimation results. Column 1 includes firm-year and bank-firm fixed effects, and column 2 additionally includes bank-year fixed effects. The estimates for rows 1 and 2 are positive and significant. Note that we only include firms with high Tobin's Q. The results indicate that lenders are more inclined to provide loans to firms with profitable projects if they have lender-affiliated directors. This is intuitive because lenders have access to more information about these firms, which helps reduce frictions between them. Notably, the positive effect becomes even more pronounced for distressed firms; the estimate in row 2 is twice as large as that in row 1. Thus, banks appointing directors increase their lending, particularly when these firms are in financial distress, which helps address the underinvestment problem.

Interestingly, when analyzing firms with low Tobin's Q, we do not observe the same patterns as those seen in firms with high Tobin's Q. The estimates in columns 3 and 4 are insignificant, indicating that the positive credit supply effect associated with banker-directors applies primarily to firms with promising investment options. This finding also suggests that banker-directors are not involved in issuing "zombie loans" to distressed firms, which could arise from cronyism. Instead, lenders with directors on the borrower's board increase their lending only when doing so is deemed efficient.

In sum, the presence of banker-directors can facilitate lenders' information generation. This enables banks to provide more credit when their borrowers have profitable investment opportunities, thereby mitigating the underinvestment problem that arises in distressed firms.

V. Spillover effects on other stakeholders

So far, our findings have demonstrated that banker-directors play a role in mitigating the conflict between creditors and shareholders, which would lead to an increase in firm value

benefiting both groups ex ante. However, for assessing the overall impact on "social welfare," it is necessary to consider the potential impacts on other stakeholders, as the within-firm efficiency gains may come at their expense. In such cases, the welfare implications become ambiguous due to the potential negative consequences for the affected stakeholder groups.

We now shift our focus to exploring the potential spillovers to stakeholders in the supply chain, i.e., suppliers and customers. We first discuss the impact on suppliers, acknowledging that the evidence provided is only suggestive due to data limitations. As discussed in Section III.A, the presence of banker-directors in financially distressed firms, which are characterized by more conservative financial decisions and improved operating performance, is also associated with larger reductions in production costs (as indicated by lower COGS to total sales ratios in Table 4). These findings suggest that while banker-directors benefit creditors in distressed firms, they may exert a negative impact on the firms' suppliers through aggressive cost-cutting measures.[27]

Moving on to examining the potential impacts on firms' customers, our previous findings in Section III.A revealed that firms with banker-directors increase their cash holdings while making larger payments to their creditors when facing financial distress. This raises the question of whether these firms extract more cash from their customers, potentially negatively affecting this stakeholder group.

To investigate this possibility, we analyze the average collection period (*CollectPeriod*), which measures the time taken to collect accounts receivable by dividing the average accounts receivable by credit sales. A decrease in the collection period would suggest that a firm is

[27] We only present suggestive evidence here as we are unable to directly observe the actual input prices paid to suppliers**.** However, it is worth noting that instances of supplier squeeze through price reduction have been widely documented in Japan. For example, Dertouzos et al. (1989) report that Japanese auto manufacturers, facing intense competitive pressure, reduced their costs to suppliers by 6%, whereas U.S. firms experienced a decrease of only 0.25%. Furthermore, a recent example from July 2020 involves Toyota, which requested price reductions from its suppliers citing sluggish sales and a drop in material costs amid the pandemic. See https://asia.nikkei.com/Business/Automobiles/Toyota-pushes-suppliers-for-out-of-cycle-price-cuts.

attempting to extract more cash from customers. We include this measure as a dependent variable in equation (1) to examine the role of banker-directors.

The estimation results in Panel A of Table 10 indicate that the impact of banker-directors on the collection period is not clear for financially sound firms (row 1), but significantly shortens the period for firms experiencing financial distress (row 2). Specifically, the appointment of a banker-director to a board of 10 members is associated with an approximately 6 percent decrease in the collection period for distressed firms compared to the mean. This result is robust to the alternative definitions of financial distress (Appendix Table B.5).

To explore whether these firms *actively* shorten their collection periods during financial difficulties, we compare different subgroups of firms. We consider firms with high cash holdings (cash ratio in the top tercile) versus those with low cash holdings (cash ratio in the bottom tercile), and large firms (total assets greater than 50 billion yen) versus small firms (total assets less than 50 billion yen). We expect that firms with limited cash would have stronger incentives to secure more cash during financial distress, and that large firms would have greater bargaining power over their customers.

The results in Panel B of Table 10 support this prediction. The coefficient on *BD*Distressed* is negative and statistically significant for firms with low cash holdings (columns 1 and 2) and large assets (columns 7 and 8). In contrast, it becomes less significant for firms with high cash holdings (columns 3 and 4) or small assets (columns 6 and 7).

VI. Conclusion

This study provides direct evidence for the association between the debt-equity conflict and corporate investment efficiency. Despite growing attention to supply-side frictions in

explaining prolonged economic slumps, there has been limited microlevel evidence explicitly demonstrating how debt-equity conflicts distort investment decisions of distressed firms. Leveraging a unique institutional setting in Japan, we examine how banker-directors influence investment efficiency during the lost decade, a period marked by a sharp and sustained decline in bank lending following a boom that ended with the bubble burst (Shirakawa 2010). In contrast to typical approaches in the empirical literature, we carefully distinguish between firms' financial conditions and the availability of profitable investment options to assess theoretical predictions more accurately.

Our findings support these predictions. Banker-directors do not exert specific impacts on firm decisions in the absence of financial distress since debt-equity conflict arises only when default risk increases. However, in distressed firms, they contribute to more conservative financial decisions, preventing shareholder exploitation. Furthermore, they effectively mitigate the inefficient investment decisions of distressed firms, leading to value creation. Specifically, firms with banker-directors experience fewer instances of underinvestment when facing profitable investment opportunities, and fewer instances of overinvestment when such opportunities are lacking.

One limitation of our study is that we rely on proxies for investment inefficiency rather than direct quantitative measures. A more precise measure would help clarify how mitigating debt-equity conflicts improves efficiency and contributes to economic recovery. Also, our regression analysis captures only a partial equilibrium effect at the margin. Structural modeling could help here by quantifying the broader impact and providing insights into whether Japan's experience generalizes to other contexts, such as Europe's post-crisis slump.

Additionally, we explore potential spillover effects on other stakeholders. While banker-directors mitigate debt-equity conflicts and benefit creditors in distressed firms, these gains may come at the expense of other stakeholders. Our findings provide suggestive evidence supporting this possibility, as firms with banker-directors reduce payments to suppliers and pressure their customers to expedite cash collection when facing financial distress. While this stakeholder squeeze may enhance firm efficiency, it raises questions about the overall welfare implications of value redistribution among stakeholders. The trade-off between within-firm value creation and broader stakeholder benefits remains an interesting open question for future research.

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Figure 1: Fraction of firms appointing any banker/dual-holder director and financial distress

See Table 1 for the definition of all variables. The left (right) pie chart in each panel shows the fraction of those with any banker director among distressed (healthy) firms in Panel A and the fraction of those with any dual-holder director among distressed (healthy) firms in Panel B. A firm is distressed if *DebtEBITDA* belongs to the top tercile. A firm is healthy if it is not distressed.

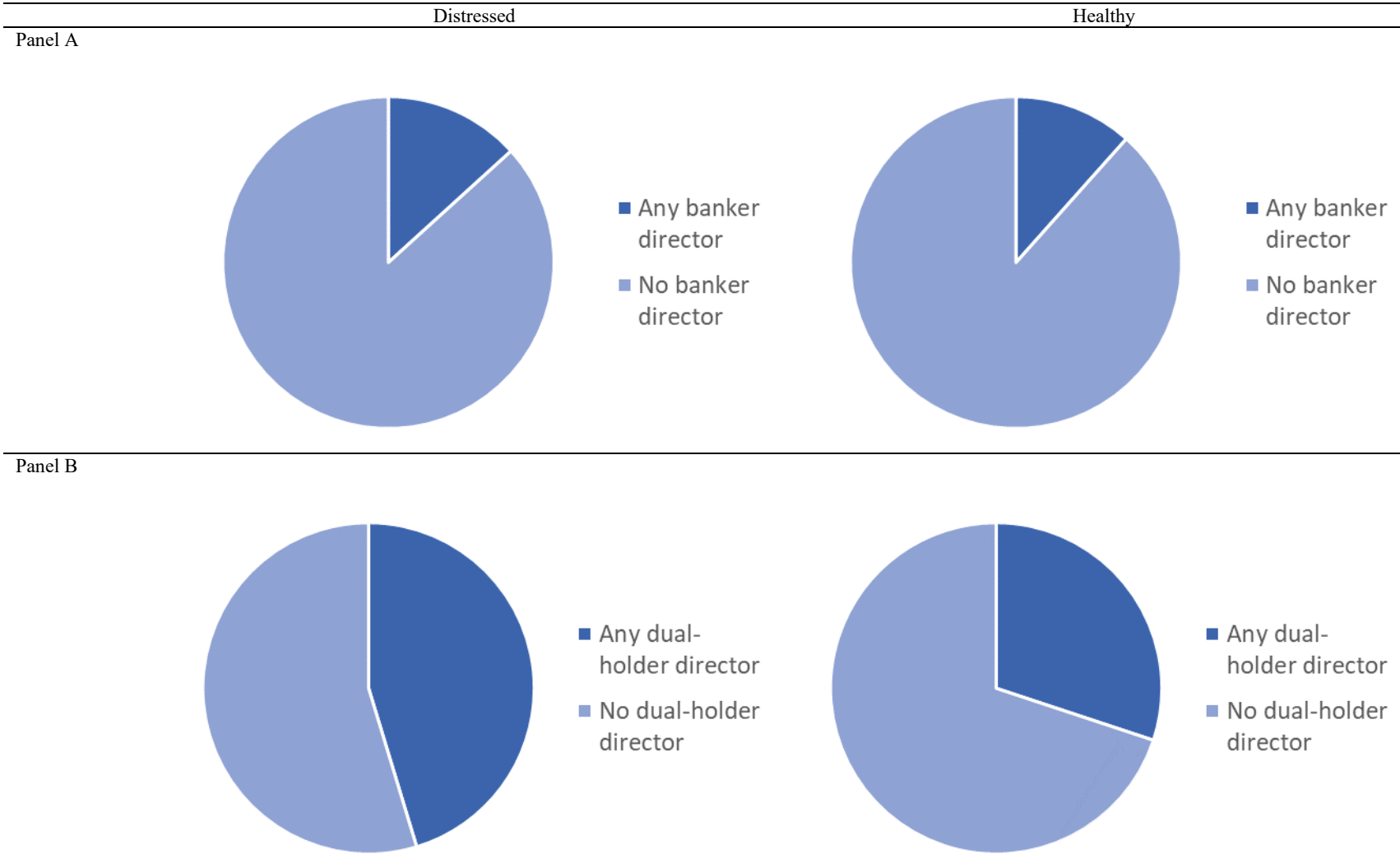


Table 1: Summary Statistics

The table shows the summary statistics of variables in Panel A. The definition of each variable is also documented under Label. Under Label, Δ.X stands for the first difference of X, while L.X stands for one year lagged X. Average X stands for (X + L.X)/2. # stands for "number of." N, Mean, and SD stand for the number of observations, the sample average, and the sample standard deviation, respectively. The table also shows the correlation matrix of variables in Panel B. Statistical significance (two-sided) at the 5% level is denoted by a plus.

Panel A		(1)	(2)	(3)
Variables	Label	N	Mean	SD
PayoutRatio	Dividends/Net income or loss	21,965	0.505	0.705
ΔWorkingCapital	Δ.((Total current assets - Total current liabilities)/Total assets)	27,344	-0.003	0.068
InterestExpense	Interest expenses and discounts/Average debt	24,340	0.024	0.041
ROA	Operating income or loss/Average total assets	27,343	0.041	0.042
ΔSales	Δ.Logarithm of gross sales (mn yen)	27,344	0.004	0.207
COGS	Cost of sales/Gross sales	27,240	0.766	0.149
CAPEX	(Net Purchase in PP&E - Depreciation)/L.Total assets	27,186	-0.002	0.048
TotalInvestment	*CAPEX* + Total R&D costs/L.Total assets	16,334	0.011	0.047
LossAvoidance	0 < Net profits/L.Total assets < 0.01	27,344	0.232	0.422
CollectPeriod	12 x Average accounts receivable/Credit sales	18,209	2.211	1.353
DebtEBITDA	Debt/ EBITDA	27,344	6.234	9.653
TobinsQ	(Total liabilities + Market capitalization)/ Total assets	27,344	1.275	0.610
HighFirmTobinsQ	*TobinsQ* > 1.5	27,344	0.197	0.398
LowFirmTobinsQ	*TobinsQ* < 1	27,344	0.354	0.478
HighFirmCash	Cash/Total assets in sample top tercile	27,344	0.308	0.462
LowFirmCash	Cash/Total assets in sample bottom tercile	27,344	0.352	0.478
HighFirmSize	Total assets > 500 (100 mn yen)	27,344	0.480	0.500
LowFirmSize	Total assets < 500 (100 mn yen)	27,344	0.520	0.500
BD	#directors from lending banks that hold no voting blocks/Board size	27,344	0.012	0.039
PD	#directors from non-lending banks that hold no voting blocks/Board size	27,344	0.006	0.025
DD	#directors from dual-holders/Board size	27,344	0.038	0.067
Size	Logarithm of total assets (000 yen)	27,344	17.830	1.388
LeverageMarket	Debt/(Debt + Market capitalization)	27,344	0.301	0.240
BlockOwnership	Accumulated shareholding ratio of principal shareholders	27,344	0.489	0.142
SalesGrowth	(Gross sales - L.Gross sales)/L.Gross sales	27,018	0.018	0.121
CashFlow	(Earnings before extraordinary items + Depreciation)/Total assets	23,412	0.064	0.043
Intangibles	Intangible assets/Total assets	27,271	0.006	0.014
HighFirmBlock	L.*BlockOwnership* > 2/3	27,344	0.139	0.346

Panel B Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) *PayoutRatio*	1.000														
(2) *ΔWorkingCapital*	-0.046+	1.000													
(3) *InterestExpense*	-0.016+	0.008	1.000												
(4) *ROA*	-0.305+	0.096+	0.004	1.000											
(5) *ΔSales*	-0.146+	0.043+	-0.016+	0.289+	1.000										
(6) *COGS*	0.074+	0.004	0.009	-0.417+	-0.044+	1.000									
(7) *CAPEX*	-0.069+	-0.176+	0.003	0.174+	0.173+	-0.151+	1.000								
(8) *TotalInvestment*	-0.088+	-0.145+	0.014	0.216+	0.176+	-0.283+	0.878+	1.000							
(9) *LossAvoidance*	0.504+	-0.007	-0.002	-0.286+	-0.092+	0.174+	-0.037+	-0.077+	1.000						
(10) *CollectPeriod*	0.042+	-0.023+	-0.012	-0.142+	-0.129+	0.131+	-0.108+	0.023+	0.027+	1.000					
(11) *BD*	-0.019+	0.033+	-0.036+	0.092+	0.034+	-0.058+	0.001	-0.022+	-0.044+	-0.020+	1.000				
(12) *DD*	0.009	-0.004	-0.016+	-0.091+	-0.032+	0.023+	0.005	-0.035+	0.039+	0.006	-0.032+	1.000			
(13) *Size*	-0.025+	-0.017+	-0.034+	-0.081+	-0.019+	0.078+	-0.045+	0.024+	0.098+	-0.001	-0.051+	-0.028+	1.000		
(14) *LeverageMarket*	0.109+	0.009	-0.142+	-0.376+	-0.084+	0.286+	-0.109+	-0.209+	0.282+	-0.021+	0.030+	0.171+	0.116+	1.000	
(15) *BlockOwnership*	-0.072+	0.018+	0.002	0.192+	0.066+	-0.054+	0.055+	0.019+	-0.071+	-0.096+	0.037+	-0.146+	-0.337+	-0.110+	1.000

Table 2: Banker directors and debt-friendliness

See Table 1 for the definition of all variables. The dependent variables are *PayoutRatio*, *ΔWorkingCapital*, and *InterestExpense*. Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *TobinsQ*, *LeverageMarket*, *ROA*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively. The mean *BD* is 0.012 for a distressed and 0.012 for a healthy firm.

Dependent Variable:	(1) *PayoutRatio*	(2) *ΔWorkingCapital*	(3) *InterestExpense*
BD * Healthy	-0.051	0.000	0.005
	(-0.278)	(0.000)	(0.493)
BD * Distressed	-1.084**	0.154***	0.019***
	(-2.478)	(5.637)	(2.931)
DD	-0.277	-0.002	0.009
	(-1.551)	(-0.179)	(1.547)
Distressed	0.104***	-0.006***	0.001**
	(4.700)	(-3.565)	(2.195)
Controls	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year
N	21,613	27,008	24,009
R-squared	0.273	0.091	0.530

Table 3: Banker directors and debt-friendliness (Blockholder's influence)

See Table 1 for the definition of all variables. We focus on the subsample where *HighFirmBlock* = 0 in the first three columns and *HighFirmBlock* = 1 in the remaining columns. The dependent variables are *PayoutRatio*, *ΔWorkingCapital*, and *InterestExpense*. Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *TobinsQ*, *LeverageMarket*, *ROA*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively. The mean *BD* is 0.012 (0.012) for a distressed and 0.011 (0.012) for a healthy firm for the first (last) three columns.

Dependent Variable:	(1) *PayoutRatio*	(2) *ΔWorkingCapital*	(3) *InterestExpense*	(4) *PayoutRatio*	(5) *ΔWorkingCapital*	(6) *InterestExpense*
Subsample:		*HighFirmBlock* = 0			*HighFirmBlock* = 1	
BD * Healthy	0.002	-0.001	0.003	-0.756	-0.009	-0.009
	(0.009)	(-0.038)	(0.264)	(-1.393)	(-0.122)	(-0.464)
BD * Distressed	-1.178**	0.160***	0.020***	0.089	-0.001	-0.041
	(-2.466)	(5.537)	(2.885)	(0.035)	(-0.009)	(-1.505)
DD	-0.283	0.004	0.008	-0.418	-0.103*	-0.021
	(-1.440)	(0.301)	(1.287)	(-1.007)	(-1.721)	(-1.238)
Distressed	0.109***	-0.007***	0.001	-0.037	-0.002	0.003
	(4.525)	(-3.748)	(1.267)	(-0.535)	(-0.374)	(1.248)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	18,038	22,634	20,391	2,482	3,101	2,572
R-squared	0.274	0.088	0.534	0.321	0.160	0.521

Table 4: Banker directors and firm performance

See Table 1 for the definition of all variables. The dependent variables are *ROA*, *ΔSales*, and *COGS*. Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *LeverageMarket*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively. The mean *BD* is 0.012 for a distressed and 0.012 for a healthy firm.

Dependent Variable:	(1) *ROA*	(2) *ΔSales*	(3) *COGS*
BD * Healthy	0.022*	0.070	-0.013
	(1.649)	(1.220)	(-0.614)
BD * Distressed	0.043***	0.176*	-0.081**
	(3.319)	(1.678)	(-2.506)
DD	0.005	0.018	0.006
	(0.737)	(0.468)	(0.393)
Distressed	-0.015***	0.022***	0.009***
	(-19.775)	(4.630)	(5.202)
Controls	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year
N	27,343	27,344	27,234
R-squared	0.677	0.213	0.933

Table 5: Banker directors and corporate investment

See Table 1 for the definition of all variables. We focus on the subsample where *HighFirmTobinsQ* = 1 in the first two columns and *LowFirmTobinsQ* = 1 in the remaining columns. The dependent variables are *CAPEX* and *TotalInvestment*. Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *LeverageMarket*, *ROA*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively. The mean *BD* is 0.011 (0.012) for a distressed and 0.015 (0.012) for a healthy firm for the first (last) two columns.

Dependent Variable:	(1) *CAPEX*	(2) *TotalInvestment*	(3) *CAPEX*	(4) *TotalInvestment*
Subsample:	*HighFirmTobinsQ* = 1		*LowFirmTobinsQ* = 1	
BD * Healthy	-0.009	-0.039	-0.021	-0.039
	(-0.247)	(-0.860)	(-0.920)	(-1.343)
BD * Distressed	0.265	0.498***	-0.054	-0.067
	(1.568)	(2.930)	(-1.246)	(-1.183)
DD	-0.013	-0.045	-0.008	0.001
	(-0.364)	(-1.404)	(-0.470)	(0.049)
Distressed	0.007	-0.002	0.003	0.003
	(1.488)	(-0.311)	(1.466)	(1.045)
Controls	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	3,442	2,010	7,312	4,619
R-squared	0.534	0.639	0.341	0.384

Table 6: Banker directors and corporate investment (Placebo)

See Table 1 for the definition of all variables. We focus on the subsample where *HighFirmTobinsQ* = 1 in the first two columns and *LowFirmTobinsQ* = 1 in the remaining columns. The dependent variables are *CAPEX* and *TotalInvestment*. Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. *PD* is the number of directors previously affiliated with banks but not any investor divided by board size. Controls include *Size*, *LeverageMarket*, *ROA*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively. The mean *BD* is 0.011 (0.012) for a distressed and 0.015 (0.012) for a healthy firm for the first (last) two columns.

Dependent Variable:	(1) *CAPEX*	(2) *TotalInvestment*	(3) *CAPEX*	(4) *TotalInvestment*
Subsample:	*HighFirmTobinsQ* = 1		*LowFirmTobinsQ* = 1	
BD * Healthy	-0.010	-0.038	-0.021	-0.035
	(-0.259)	(-0.820)	(-0.931)	(-1.222)
BD * Distressed	0.264	0.497***	-0.054	-0.066
	(1.560)	(2.895)	(-1.252)	(-1.146)
DD	-0.013	-0.043	-0.009	0.003
	(-0.385)	(-1.302)	(-0.510)	(0.121)
PD * Healthy	-0.005	0.015	0.004	0.028
	(-0.091)	(0.317)	(0.123)	(0.649)
PD * Distressed	0.002	0.184	-0.022	0.038
	(0.021)	(0.972)	(-0.428)	(0.662)
Distressed	0.007	-0.002	0.003	0.003
	(1.461)	(-0.347)	(1.491)	(1.019)
Controls	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	3,442	2,010	7,312	4,619
R-squared	0.534	0.639	0.341	0.384

Table 7: Banker directors and abnormal investment

The dependent variables are *AbnormalX*, *OverX*, and *UnderX*, where *X* is *CX* (*CAPEX*) and *TI* (*TotalInvestment*), measuring the magnitude of abnormal investment, overinvestment, and underinvestment, respectively. We construct them, following the method proposed by Richardson (2006). See Section 3.2.1 for the detail. See Table 1 for the definition of other variables. Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Following Anton and Lin (2020), controls include *SalesGrowth*, *CashFlow*, *Intangibles*, *PayoutRatio*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively. The mean BD is 0.012 for a distressed and 0.012 for a healthy firm.

Dependent Variable:	(1) *AbnormalCX*	(2) *AbnormalTI*	(3) *OverCX*	(4) *OverTI*	(5) *UnderCX*	(6) *UnderTI*
BD * Healthy	-0.007	-0.006	-0.002	-0.017	-0.005	0.011
	(-0.553)	(-0.396)	(-0.204)	(-1.258)	(-0.513)	(0.953)
BD * Distressed	-0.040*	-0.064***	-0.005	-0.017	-0.035**	-0.047**
	(-1.957)	(-3.440)	(-0.253)	(-0.745)	(-2.141)	(-2.135)
DD	-0.009	-0.008	-0.012	-0.010	0.002	0.002
	(-1.042)	(-0.709)	(-1.645)	(-1.154)	(0.407)	(0.187)
Distressed	0.001	0.002*	0.000	0.001	0.001	0.002*
	(0.886)	(1.891)	(0.424)	(0.715)	(0.770)	(1.906)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	16,918	11,117	16,918	11,117	16,918	11,117
R-squared	0.269	0.269	0.183	0.225	0.243	0.227

Table 8: Banker directors and accounting quality

See Table 1 for the definition of all variables. The dependent variable is *LossAvoidance*. Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *TobinsQ*, *LeverageMarket*, *ROA*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively. The mean BD is 0.012 for a distressed and 0.012 for a healthy firm.

	(1)	(2)
BD * Healthy	0.073	0.106
	(0.805)	(1.136)
BD * Distressed	-0.399***	-0.350**
	(-2.587)	(-2.150)
DD	-0.060	-0.065
	(-0.721)	(-0.770)
Distressed	0.122***	0.061***
	(12.117)	(5.352)
Controls	No	Yes
FE	Firm, Year	Firm, Year
N	27,816	27,008
R-squared	0.281	0.294

Table 9: Banker directors and bank loan supply

Observations are at the bank-firm-year level. We focus on the subsample where the bank's total credit supply in the year exceeds 1 tn yen. We further restrict our attention to the subsample where *HighFirmTobinsQ* = 1 in the first two columns and *LowFirmTobinsQ* = 1 in the remaining columns. See Table 1 for the definition of *HighFirmTobinsQ* and *LowFirmTobinsQ*. The dependent variable is *NewLoan*, defined as an annual increase in the loan provided by the bank to the firm of that year divided by the firm's total assets in the previous year. *Lender_withBD* is the indicator taking the value of 1 if the bank that lends to the firm (while not holding its equity) has a director on the borrower's board in that year. Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile. Healthy is defined as 1 – Distressed. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

	(1)	(2)	(3)	(4)
Subsample:	*HighFirmTobinsQ* = 1		*LowFirmTobinsQ* = 1	
Lender_withBD * Healthy	0.012**	0.012**	0.003	0.003
	(2.387)	(2.515)	(0.900)	(0.942)
Lender_withBD * Distressed	0.028**	0.028**	-0.002	-0.001
	(2.195)	(2.126)	(-0.710)	(-0.654)
FE	Firm x Year, Bank x Firm	Firm x Year, Bank x Firm, Bank x Year	Firm x Year, Bank x Firm	Firm x Year, Bank x Firm, Bank x Year
N	18,906	18,906	34,432	34,428
R-squared	0.613	0.621	0.548	0.554

Table 10: Banker directors and collection period

See Table 1 for the definition of all variables. In Panel A, we focus on the full sample. In Panel B, we focus on the subsample where *LowFirmCash* = 1 and *LowFirmSize* = 1 in the first, second, fifth, and sixth columns and *HighFirmCash* = 1 and *HighFirmSize* = 1 in the remaining columns. The dependent variable is *CollectPeriod*. Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *TobinsQ*, *LeverageMarket*, *ROA*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects are given in the last row of each panel. We exclude the number of observations and R-squared for the sake of space. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively. In Panel A, the mean BD is 0.012 for a distressed and 0.012 for a healthy firm. In Panel B, the mean BD is 0.012, 0.011, 0.013, and 0.011 for a distressed and 0.008, 0.015, 0,013, and 0.009 for a healthy firm for the first, second, third, and last two columns, respectively.

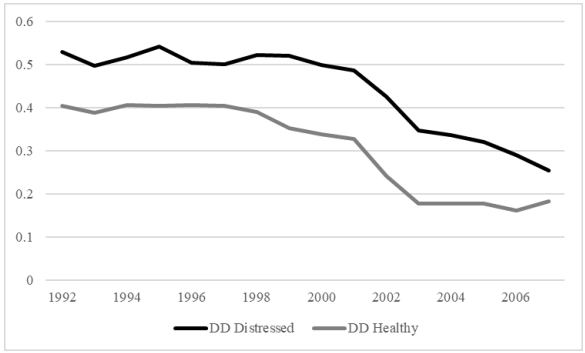
Panel A	(1)	(2)
BD * Healthy	-0.369	-0.386
	(-1.378)	(-1.434)
BD * Distressed	-1.246***	-1.309***
	(-3.004)	(-3.130)
DD	-0.364*	-0.298
	(-1.692)	(-1.529)
Distressed	0.042*	0.036
	(1.935)	(1.548)
Controls	No	Yes
FE	Firm, Year	Firm, Year
N	18,431	18,049
R-squared	0.856	0.858

Panel B	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Subsample:	*LowFirmCash* = 1		*HighFirmCash* = 1		*LowFirmSize* = 1		*HighFirmSize* = 1	
BD * Healthy	0.353	0.460	0.336	0.270	-0.083	-0.138	-1.144*	-0.979
	(0.563)	(0.687)	(0.804)	(0.656)	(-0.306)	(-0.497)	(-1.889)	(-1.579)
BD * Distressed	-1.475***	-1.472**	-1.411	-1.673	-0.575	-0.698*	-2.890***	-2.580***
	(-2.640)	(-2.492)	(-1.100)	(-1.295)	(-1.519)	(-1.715)	(-3.659)	(-3.624)
DD	-0.432	-0.424	0.086	0.085	-0.089	-0.115	-0.770*	-0.539
	(-1.312)	(-1.252)	(0.245)	(0.239)	(-0.446)	(-0.557)	(-1.661)	(-1.300)
Distressed	0.082**	0.104***	0.043	0.058	0.065**	0.067**	0.024	0.002
	(2.454)	(3.120)	(1.020)	(1.118)	(2.314)	(2.424)	(0.762)	(0.052)
Controls	No	Yes	No	Yes	No	Yes	No	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year

Figure A.1: Fraction of firms appointing any banker/dual-holder director and financial distress

See Table 1 for the definition of all variables. The left (right) chart shows the fraction of those with any dual-holder (banker) director among distressed and healthy firms, respectively. A firm is distressed if *DebtEBITDA* belongs to the top tercile. A firm is healthy if it is not distressed.

Dual-holder directors



Banker directors

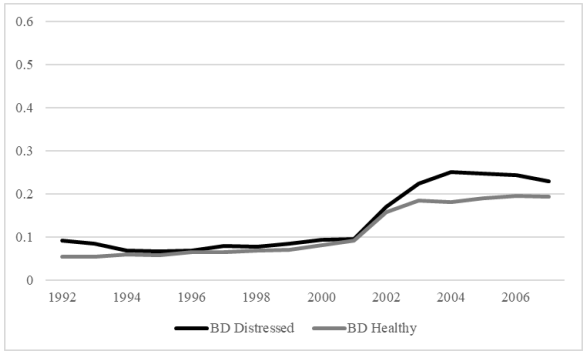


Table A.1: Banker directors and corporate investment (Robustness)

See Table 1 and Section III.B.1 for the definition of all variables. We focus on the subsample where *HighFirmFactor* = 1, *HighFirmSalesGrowth* = 1, and *HighFirmTobinsQ* = 1 in the first two, middle two, and last two columns of Panel A, respectively. Also, we focus on the subsample where *LowFirmFactor* = 1, *LowFirmSalesGrowth* = 1, and *LowFirmTobinsQ* = 1 in the first two, middle two, and last two columns of Panel B, respectively. *BD* is the number of banker directors divided by board size, but in the last two columns, we replace *BD* with the number of directors previously affiliated with the firm's current lending banks, who hold no voting blocks, divided by board size. *DD* is the number of dual-holder directors divided by board size. The dependent variable is *TotalInvestment*. Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile in odd columns and if *ZScore* is smaller than 1.81 in the remaining columns. Healthy is defined as 1 – Distressed. Controls include *Size*, *LeverageMarket*, *ROA*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Distressed:	*DebtEBITDA* in top tercile	*ZScore* < 1.81	*DebtEBITDA* in top tercile	*ZScore* < 1.81	*DebtEBITDA* in top tercile	*ZScore* < 1.81
Panel A	*HighFirmFactor* = 1		*HighFirmSalesGrowth* = 1		*HighFirmTobinsQ* = 1	
BD * Healthy	-0.056*	-0.046	-0.048	-0.045	-0.071	-0.030
	(-1.677)	(-1.165)	(-1.256)	(-1.138)	(-1.243)	(-0.355)
BD * Distressed	0.339***	0.268*	0.362***	0.150	0.700**	1.103***
	(2.794)	(1.862)	(2.984)	(1.005)	(2.435)	(3.439)
DD	-0.050*	-0.038	-0.067**	-0.059*	-0.048	-0.026
	(-1.768)	(-1.209)	(-2.203)	(-1.829)	(-1.521)	(-0.703)
Distressed	-0.005	-0.012*	0.005	-0.004	-0.001	-0.023**
	(-0.822)	(-1.647)	(0.865)	(-0.698)	(-0.113)	(-2.229)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	3,222	3,183	1,965	1,979	2,010	2,033
R-squared	0.606	0.604	0.653	0.644	0.638	0.632
Panel B	*LowFirmFactor* = 1		*LowFirmSalesGrowth* = 1		*LowFirmTobinsQ* = 1	
BD * Healthy	0.014	0.059	0.012	0.011	-0.043	-0.073
	(0.332)	(1.604)	(0.273)	(0.259)	(-0.611)	(-0.875)
BD * Distressed	-0.031	-0.083	-0.104*	-0.163***	-0.100	-0.131
	(-0.609)	(-1.510)	(-1.883)	(-2.792)	(-0.732)	(-0.972)
DD	0.000	0.006	0.010	0.003	0.012	0.007
	(0.011)	(0.247)	(0.368)	(0.131)	(0.664)	(0.408)
Distressed	0.003	-0.001	0.004	-0.002	0.003	-0.001
	(1.021)	(-0.264)	(1.353)	(-0.666)	(0.935)	(-0.246)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	3,175	3,532	3,611	3,821	4,619	4,824
R-squared	0.371	0.352	0.429	0.419	0.383	0.382

Table A.2: Banker directors and firm characteristics

See Table 1 for the definition of all variables. The table shows the summary statistics of firms with no banker director (first and second columns) and those with any banker director (third and fourth columns). N and Mean stand for the number of observations and the sample average, respectively. Normalized difference stands for ((4) – (2)), scaled by the square root of the average of the two within-group variances.

	(1)	(2)	(3)	(4)	(5)
	N	Mean	N	Mean	Normalized difference
Firms:	No banker director		Any banker director		Any banker director - No banker director
Size	24,011	17.843	3,333	17.871	0.02
TobinsQ	24,011	1.255	3,333	1.289	0.06
LeverageMarket	24,011	0.296	3,333	0.318	0.09
ROA	24,010	0.040	3,333	0.049	0.20
BlockOwnership	24,010	0.487	3,333	0.484	-0.02
DebtEBITDA	23,413	5.988	3,274	5.970	0.00

Online Appendix

for *Debt-equity Conflicts and Efficiency of Distressed Firms: Evidence from Japanese Banker-directors*

This online appendix provides additional robustness analyses for "Debt-equity Conflicts and Efficiency of Distressed Firms: Evidence from Japanese Banker-directors" by Kentaro Asai and Dong Beom Choi.

Section B replicates the main tables using two alternative definitions of financial distress. Specifically, a firm is classified as distressed in a given year if its Altman Z-score falls below 1.81, or if both its Altman Z-score is below 1.81 and the alternative Z-score developed by Xu and Zhang (2009), customized for Japanese listed firms, is below the sample median.

Section C presents results based on an alternative model specification:

$$y_{i,t} = \alpha_i + \alpha_t + \beta BD_{i,t-1} + \gamma BD_{i,t-1} \cdot Distressed_{i,t-1} + \delta Distressed_{i,t-1} + \eta X_{i,t-1} + \varepsilon_{i,t},$$

instead of our main specification:

$$y_{i,t} = \alpha_i + \alpha_t + \beta BD_{i,t-1} \cdot Healthy_{i,t-1} + \gamma BD_{i,t-1} \cdot Distressed_{i,t-1} + \delta Distressed_{i,t-1} + \eta X_{i,t-1} + \varepsilon_{i,t}.$$

Section D reports additional robustness checks that are not reported in the printed version of the paper.

Table B.1: Banker directors and debt-friendliness

See Table 1 for the definition of all variables. The dependent variables are *PayoutRatio*, *ΔWorkingCapital*, and *InterestExpense*. Distressed is the indicator taking the value of 1 if *ZScore* is smaller than 1.81 in the first three columns and if *ZScore* is smaller than 1.81 and *JapanZScore* belongs to the bottom half in the remaining columns. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *TobinsQ*, *LeverageMarket*, *ROA*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

Dependent Variable:	(1) *PayoutRatio*	(2) *ΔWorkingCapital*	(3) *InterestExpense*	(4) *PayoutRatio*	(5) *ΔWorkingCapital*	(6) *InterestExpense*
Distressed:		*ZScore* < 1.81			*ZScore* < 1.81 and *JapanZScore* in bottom half	
BD * Healthy	0.034	0.006	0.005	0.043	0.010	0.005
	(0.175)	(0.308)	(0.454)	(0.221)	(0.477)	(0.494)
BD * Distressed	-1.154***	0.165***	0.020***	-1.184***	0.160***	0.019***
	(-2.818)	(5.510)	(2.930)	(-2.892)	(5.439)	(2.808)
DD	-0.205	0.008	0.007	-0.207	0.008	0.007
	(-1.126)	(0.599)	(1.375)	(-1.134)	(0.629)	(1.362)
Distressed	-0.002	0.019***	0.005***	0.006	0.017***	0.006***
	(-0.077)	(8.780)	(7.173)	(0.228)	(8.045)	(7.048)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	21,667	27,674	24,680	21,667	27,674	24,680
R-squared	0.267	0.086	0.526	0.267	0.085	0.526

Table B.2: Banker directors and firm performance

See Table 1 for the definition of all variables. The dependent variables are *ROA*, *ΔSales*, and *COGS*. Distressed is the indicator taking the value of 1 if *ZScore* is smaller than 1.81 in the first three columns and if *ZScore* is smaller than 1.81 and *JapanZScore* belongs to the bottom half in the remaining columns. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *LeverageMarket*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

Dependent Variable:	(1) *ROA*	(2) *ΔSales*	(3) *COGS*	(4) *ROA*	(5) *ΔSales*	(6) *COGS*
Distressed:		*ZScore* < 1.81			*ZScore* < 1.81 and *JapanZScore* in bottom half	
BD * Healthy	0.030**	0.065	-0.030	0.030**	0.069	-0.031
	(2.186)	(0.959)	(-1.357)	(2.163)	(1.018)	(-1.402)
BD * Distressed	0.042***	0.195*	-0.065*	0.043***	0.187*	-0.064*
	(2.777)	(1.846)	(-1.807)	(2.844)	(1.774)	(-1.770)
DD	0.009	0.013	0.009	0.009	0.013	0.009
	(1.178)	(0.333)	(0.593)	(1.185)	(0.326)	(0.592)
Distressed	-0.005***	0.038***	0.002	-0.005***	0.039***	0.002
	(-6.242)	(6.481)	(1.149)	(-6.365)	(6.527)	(1.126)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	28,017	28,017	27,904	28,017	28,017	27,904
R-squared	0.675	0.207	0.931	0.675	0.207	0.931

Table B.3: Banker directors and corporate investment

See Table 1 for the definition of all variables. We focus on the subsample where *HighFirmTobinsQ* = 1 in Panel A and *LowFirmTobinsQ* = 1 in Panel B. The dependent variables are *CAPEX* and *TotalInvestment*. Distressed is the indicator taking the value of 1 if *ZScore* is smaller than 1.81 in the first two columns and if *ZScore* is smaller than 1.81 and *JapanZScore* belongs to the bottom half in the remaining columns. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *LeverageMarket*, *ROA*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

Dependent	(1)	(2)	(3)	(4)
Variable:	*CAPEX*	*TotalInvestment*	*CAPEX*	*TotalInvestment*
Distressed:	*ZScore* < 1.81		*ZScore* < 1.81 and *JapanZScore* in bottom half	
Panel A: *HighFirmTobinsQ* = 1				
BD * Healthy	-0.000	0.009	0.001	0.010
	(-0.005)	(0.155)	(0.028)	(0.169)
BD * Distressed	0.442**	0.534**	0.426*	0.533**
	(1.984)	(2.125)	(1.829)	(2.114)
DD	-0.035	-0.019	-0.034	-0.018
	(-0.981)	(-0.471)	(-0.938)	(-0.447)
Distressed	-0.019***	-0.021**	-0.014*	-0.020*
	(-2.628)	(-1.999)	(-1.861)	(-1.894)
Controls	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	3,490	2,033	3,490	2,033
R-squared	0.522	0.630	0.521	0.629
Panel B: *LowFirmTobinsQ* = 1				
BD * Healthy	0.004	-0.012	0.005	-0.012
	(0.189)	(-0.459)	(0.242)	(-0.461)
BD * Distressed	-0.111**	-0.140**	-0.113**	-0.140**
	(-2.510)	(-2.360)	(-2.547)	(-2.359)
DD	-0.008	-0.005	-0.008	-0.005
	(-0.503)	(-0.246)	(-0.503)	(-0.246)
Distressed	-0.000	0.000	-0.001	0.000
	(-0.153)	(0.161)	(-0.280)	(0.146)
Controls	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	7,624	4,824	7,624	4,824
R-squared	0.336	0.383	0.336	0.383

Table B.4: Banker directors and abnormal investment

The dependent variables are *AbnormalX*, *OverX*, and *UnderX*, where *X* is *CX* (*CAPEX*) and *TI* (*TotalInvestment*), measuring the magnitude of abnormal investment, overinvestment, and underinvestment, respectively. We construct them, following the method proposed by Richardson (2006). See Section 3.2.1 for the detail. See Table 1 for the definition of other variables. Distressed is the indicator taking the value of 1 if *ZScore* is smaller than 1.81 in Panel A and if *ZScore* is smaller than 1.81 and *JapanZScore* belongs to the bottom half in Panel B. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Following Anton and Lin (2020), controls include *SalesGrowth*, *CashFlow*, *Intangibles*, *PayoutRatio*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

Dependent Variable:	(1) *AbnormalCX*	(2) *AbnormalTI*	(3) *OverCX*	(4) *OverTI*	(5) *UnderCX*	(6) *UnderTI*
Panel A: Distressed = *ZScore* < 1.81						
BD * Healthy	-0.007	-0.008	0.005	-0.012	-0.012	0.004
	(-0.528)	(-0.506)	(0.480)	(-0.817)	(-1.216)	(0.287)
BD * Distressed	-0.037*	-0.052***	-0.025	-0.037	-0.012	-0.015
	(-1.815)	(-2.787)	(-1.152)	(-1.444)	(-0.683)	(-0.602)
DD	-0.008	-0.006	-0.010	-0.008	0.002	0.002
	(-0.923)	(-0.540)	(-1.398)	(-0.921)	(0.298)	(0.200)
Distressed	0.001	0.003**	-0.002*	-0.001	0.003***	0.004***
	(0.917)	(2.117)	(-1.956)	(-0.623)	(3.781)	(3.849)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	16,831	11,051	16,831	11,051	16,831	11,051
R-squared	0.270	0.271	0.186	0.227	0.243	0.227
Panel B: Distressed = *ZScore* < 1.81 and *JapanZScore* in bottom half						
BD * Healthy	-0.007	-0.008	0.005	-0.012	-0.012	0.004
	(-0.528)	(-0.508)	(0.477)	(-0.821)	(-1.213)	(0.290)
BD * Distressed	-0.037*	-0.052***	-0.024	-0.037	-0.012	-0.016
	(-1.817)	(-2.785)	(-1.148)	(-1.438)	(-0.690)	(-0.606)
DD	-0.008	-0.006	-0.010	-0.008	0.002	0.002
	(-0.926)	(-0.542)	(-1.396)	(-0.920)	(0.291)	(0.196)
Distressed	0.001	0.003**	-0.002*	-0.001	0.003***	0.004***
	(0.968)	(2.122)	(-1.943)	(-0.637)	(3.838)	(3.871)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	16,831	11,051	16,831	11,051	16,831	11,051
R-squared	0.270	0.271	0.186	0.227	0.243	0.228

Table B.5: Banker directors and collection period

See Table 1 for the definition of all variables. The dependent variable is *CollectPeriod*. Distressed is the indicator taking the value of 1 if *ZScore* is smaller than 1.81 in the first two columns and if *ZScore* is smaller than 1.81 and *JapanZScore* belongs to the bottom half in the remaining columns. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *TobinsQ*, *LeverageMarket*, *ROA*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

	(1)	(2)	(3)	(4)
Distressed:	*ZScore* < 1.81		*ZScore* < 1.81 and *JapanZScore* in bottom half	
BD * Healthy	-0.533**	-0.595**	-0.522**	-0.578**
	(-2.097)	(-2.362)	(-2.064)	(-2.308)
BD * Distressed	-1.334***	-1.255***	-1.366***	-1.297***
	(-3.107)	(-2.999)	(-3.162)	(-3.081)
DD	-0.370*	-0.314*	-0.372*	-0.315*
	(-1.700)	(-1.684)	(-1.707)	(-1.690)
Distressed	0.035	0.030	0.039*	0.033
	(1.588)	(1.386)	(1.785)	(1.488)
Controls	No	Yes	No	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	18,644	18,498	18,644	18,498
R-squared	0.851	0.853	0.851	0.853

Table C.1: Banker directors and debt-friendliness

See Table 1 for the definition of all variables. The dependent variables are *PayoutRatio*, *ΔWorkingCapital*, and *InterestExpense*. Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *TobinsQ*, *LeverageMarket*, *ROA*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

Dependent	(1)	(2)	(3)
Variable:	*PayoutRatio*	*ΔWorkingCapital*	*InterestExpense*
BD	-0.051	0.000	0.005
	(-0.278)	(0.000)	(0.493)
BD * Distressed	-1.033**	0.154***	0.014*
	(-2.443)	(4.991)	(1.761)
DD	-0.277	-0.002	0.009
	(-1.551)	(-0.179)	(1.547)
Distressed	0.104***	-0.006***	0.001**
	(4.700)	(-3.565)	(2.195)
Controls	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year
N	21,613	27,008	24,009
R-squared	0.273	0.091	0.530

Table C.2: Banker directors and firm performance

See Table 1 for the definition of all variables. The dependent variables are *ROA*, *ΔSales*, and *COGS*. Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *LeverageMarket*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

Dependent Variable:	(1) *ROA*	(2) *ΔSales*	(3) *COGS*
BD	0.022*	0.070	-0.013
	(1.649)	(1.220)	(-0.614)
BD * Distressed	0.021	0.107	-0.068**
	(1.378)	(1.021)	(-2.119)
DD	0.005	0.018	0.006
	(0.737)	(0.468)	(0.393)
Distressed	-0.015***	0.022***	0.009***
	(-19.775)	(4.630)	(5.202)
Controls	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year
N	27,343	27,344	27,234
R-squared	0.677	0.213	0.933

Table C.3: Banker directors and corporate investment

See Table 1 for the definition of all variables. We focus on the subsample where *HighFirmTobinsQ* = 1 in the first two columns and *LowFirmTobinsQ* = 1 in the remaining columns. The dependent variables are *CAPEX* and *TotalInvestment*. Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *LeverageMarket*, *ROA*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

Dependent Variable:	(1) *CAPEX*	(2) *TotalInvestment*	(3) *CAPEX*	(4) *TotalInvestment*
Subsample:	*HighFirmTobinsQ* = 1		*LowFirmTobinsQ* = 1	
BD	-0.009	-0.039	-0.021	-0.039
	(-0.247)	(-0.860)	(-0.920)	(-1.343)
BD * Distressed	0.274	0.537***	-0.033	-0.029
	(1.580)	(3.144)	(-0.759)	(-0.526)
DD	-0.013	-0.045	-0.008	0.001
	(-0.364)	(-1.404)	(-0.470)	(0.049)
Distressed	0.007	-0.002	0.003	0.003
	(1.488)	(-0.311)	(1.466)	(1.045)
Controls	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	3,442	2,010	7,312	4,619
R-squared	0.534	0.639	0.341	0.384

Table C.4: Banker directors and abnormal investment

The dependent variables are *AbnormalX*, *OverX*, and *UnderX*, where *X* is *CX* (*CAPEX*) and *TI* (*TotalInvestment*), measuring the magnitude of abnormal investment, overinvestment, and underinvestment, respectively. We construct them, following the method proposed by Richardson (2006). See Section 3.2.1 for the detail. See Table 1 for the definition of other variables. Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Following Anton and Lin (2020), controls include *SalesGrowth*, *CashFlow*, *Intangibles*, *PayoutRatio*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

Dependent Variable:	(1) *AbnormalCX*	(2) *AbnormalTI*	(3) *OverCX*	(4) *OverTI*	(5) *UnderCX*	(6) *UnderTI*
BD	-0.007	-0.006	-0.002	-0.017	-0.005	0.011
	(-0.553)	(-0.396)	(-0.204)	(-1.258)	(-0.513)	(0.953)
BD * Distressed	-0.033	-0.058***	-0.003	0.001	-0.030	-0.059**
	(-1.573)	(-2.966)	(-0.130)	(0.020)	(-1.629)	(-2.406)
DD	-0.009	-0.008	-0.012	-0.010	0.002	0.002
	(-1.042)	(-0.709)	(-1.645)	(-1.154)	(0.407)	(0.187)
Distressed	0.001	0.002*	0.000	0.001	0.001	0.002*
	(0.886)	(1.891)	(0.424)	(0.715)	(0.770)	(1.906)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	16,918	11,117	16,918	11,117	16,918	11,117
R-squared	0.269	0.269	0.183	0.225	0.243	0.227

Table C.5: Banker directors and collection period

See Table 1 for the definition of all variables. The dependent variable is *CollectPeriod*. Distressed is the indicator taking the value of 1 if *ZScore* is smaller than 1.81 in the first two columns and if *ZScore* is smaller than 1.81 and *JapanZScore* belongs to the bottom half in the remaining columns. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *TobinsQ*, *LeverageMarket*, *ROA*, and *BlockOwnership*. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

	(1)	(2)
BD	-0.369	-0.386
	(-1.378)	(-1.434)
BD * Distressed	-0.877**	-0.923**
	(-2.118)	(-2.152)
DD	-0.364*	-0.298
	(-1.692)	(-1.529)
Distressed	0.042*	0.036
	(1.935)	(1.548)
Controls	No	Yes
FE	Firm, Year	Firm, Year
N	18,431	18,049
R-squared	0.856	0.858

Table D.1: Banker directors, debt-friendliness, and corporate investment (Matching)

See Table 1 for the definition of all variables. The sample includes firms that have appointed any banker director at least once and their nearest neighbors (with replacement) among never takers. We match on *Sales*, *Size*, *TobinsQ*, *LeverageMarket*, *ROA*, and *BlockOwnership* averaged at the firm level using the Euclidean distance method. We focus on the subsample where *HighFirmTobinsQ* = 1 in the fourth column and *LowFirmTobinsQ* = 1 in the last column. The dependent variables are *PayoutRatio*, *ΔWorkingCapital*, *InterestExpense*, and *TotalInvestment*. Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile in Panel A and if *ZScore* is smaller than 1.81 in Panel B. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *TobinsQ*, *LeverageMarket*, *ROA*, and *BlockOwnership* in the first three columns and *Size*, *LeverageMarket*, *ROA*, and *BlockOwnership* in the last two. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

Dependent Variable:	(1) *PayoutRatio*	(2) *ΔWorkingCapital*	(3) *InterestExpense*	(4) *TotalInvestment*	(5) *TotalInvestment*
Subsample:				*HighFirmTobinsQ* = 1	*LowFirmTobinsQ* = 1
Panel A: Distressed = *DebtEBITDA* in top tercile					
BD * Healthy	-0.097	-0.001	0.006	-0.045	-0.037
	(-0.503)	(-0.072)	(0.602)	(-0.998)	(-1.185)
BD * Distressed	-1.156**	0.159***	0.016**	0.499***	-0.072
	(-2.553)	(5.774)	(2.138)	(2.875)	(-1.234)
DD	-0.409**	0.012	0.006	-0.063*	-0.002
	(-2.020)	(0.788)	(0.983)	(-1.889)	(-0.085)
Distressed	0.110***	-0.008***	0.001	-0.009	0.005
	(4.065)	(-3.556)	(1.360)	(-1.388)	(1.268)
Controls	Yes	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	13,065	16,616	15,311	1,245	2,581
R-squared	0.266	0.085	0.505	0.610	0.395
Panel B: Distressed = *ZScore* < 1.81					
BD * Healthy	0.002	0.007	0.005	0.017	-0.014
	(0.012)	(0.335)	(0.471)	(0.281)	(-0.465)
BD * Distressed	-1.340***	0.164***	0.016**	0.541**	-0.143**
	(-3.166)	(5.420)	(2.177)	(2.083)	(-2.375)
DD	-0.350*	0.020	0.005	-0.030	-0.009
	(-1.690)	(1.287)	(0.819)	(-0.687)	(-0.402)
Distressed	0.040	0.020***	0.004***	-0.022*	0.002
	(1.202)	(7.690)	(5.188)	(-1.798)	(0.713)
Controls	Yes	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	13,111	17,062	15,755	1,265	2,703
R-squared	0.264	0.085	0.503	0.599	0.393

Table D.2: Banker directors, debt-friendliness, and corporate investment (IV)

See Table 1 for the definition of all variables. We focus on the subsample where *HighFirmTobinsQ* = 1 in the fourth column and *LowFirmTobinsQ* = 1 in the last column. The dependent variables are *PayoutRatio*, *ΔWorkingCapital*, *InterestExpense*, and *TotalInvestment*. Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile in Panel A and if *ZScore* is smaller than 1.81 in Panel B. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *TobinsQ*, *LeverageMarket*, *ROA*, and *BlockOwnership* in the first three columns and *Size*, *LeverageMarket*, *ROA*, and *BlockOwnership* in the last two. All explanatory variables are lagged by one year, and *BD* * Healthy and *BD* * Distressed lagged by one year are instrumented by *BD* lagged by two years interacted with Healthy and Distressed lagged by one year, respectively. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

Dependent Variable:	(1) *PayoutRatio*	(2) *ΔWorkingCapital*	(3) *InterestExpense*	(4) *TotalInvestment*	(5) *TotalInvestment*
Subsample:				*HighFirmTobinsQ* = 1	*LowFirmTobinsQ* = 1
Panel A: Distressed = *DebtEBITDA* in top tercile					
BD * Healthy	0.145	-0.011	0.014	0.020	-0.082
	(0.330)	(-0.281)	(0.690)	(0.188)	(-0.857)
BD * Distressed	-1.414**	0.105**	0.010	0.633***	-0.147
	(-2.103)	(2.246)	(0.931)	(3.085)	(-1.234)
DD	-0.333	-0.013	0.008	-0.014	-0.020
	(-1.643)	(-0.797)	(1.195)	(-0.309)	(-0.627)
Distressed	0.124***	-0.005***	0.001**	0.001	0.003
	(5.304)	(-2.853)	(2.041)	(0.131)	(1.043)
Controls	Yes	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	19,910	25,021	22,189	1,703	4,570
R-squared	0.035	0.013	0.012	0.061	0.025
Panel B: Distressed = *ZScore* < 1.81					
BD * Healthy	0.259	-0.008	0.012	0.054	-0.034
	(0.535)	(-0.188)	(0.550)	(0.396)	(-0.443)
BD * Distressed	-1.470**	0.125***	0.013	0.587**	-0.282**
	(-2.466)	(2.854)	(1.238)	(2.100)	(-2.279)
DD	-0.260	-0.006	0.007	0.010	-0.028
	(-1.262)	(-0.379)	(1.140)	(0.158)	(-0.958)
Distressed	0.010	0.019***	0.005***	-0.024*	0.001
	(0.373)	(8.240)	(6.716)	(-1.857)	(0.526)
Controls	Yes	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	19,970	25,688	22,861	1,731	4,775
R-squared	0.033	0.020	0.014	0.060	0.025

Table D.3: First stage regressions for IV regressions

See Table 1 for the definition of all variables. The table shows the results of first stage regressions for IV regressions presented in Table A.4 (models (1) through (5), panels A and B). Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile in Panel A and if *ZScore* is smaller than 1.81 in Panel B. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *TobinsQ*, *LeverageMarket*, *ROA*, and *BlockOwnership* in the first three models and *Size*, *LeverageMarket*, *ROA*, and *BlockOwnership* in the last two models. Endogenous variables are *BD* * Healthy and *BD* * Distressed lagged by one year. They are instrumented by *BD* lagged by two years (*IV*) interacted with Healthy and Distressed lagged by one year, respectively. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

Endogenous	(1)		(2)		(3)		(4)		(5)	
Variable:	*BD**	*BD**	*BD**	*BD**	*BD**	*BD**	*BD**	*BD**	*BD**	*BD**
	Healthy	Distressed	Healthy	Distressed	Healthy	Distressed	Healthy	Distressed	Healthy	Distressed
Subsample:							*HighFirmTobinsQ* = 1		*LowFirmTobinsQ* = 1	
Panel A: Distressed = *DebtEBITDA* in top tercile										
IV * Healthy	0.536***	-0.053***	0.571***	-0.068***	0.577***	-0.078***	0.485***	-0.040**	0.304*	-0.081**
	(12.330)	(-7.584)	(14.549)	(-8.831)	(12.764)	(-8.612)	(8.376)	(-2.297)	(1.955)	(-2.501)
IV * Distressed	-0.145***	0.736***	-0.111***	0.704***	-0.113***	0.700***	-0.209**	0.826***	-0.203***	0.618***
	(-7.839)	(29.690)	(-8.607)	(27.789)	(-7.935)	(26.726)	(-2.503)	(4.340)	(-3.658)	(9.144)
DD	-0.146***	-0.051***	-0.119***	-0.075***	-0.120***	-0.082***	-0.199***	-0.010	-0.209***	-0.097***
	(-7.162)	(-5.872)	(-7.651)	(-8.798)	(-7.083)	(-8.816)	(-5.680)	(-1.204)	(-3.551)	(-3.478)
Distressed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	19,910	19,910	25,021	25,021	22,189	22,189	1,703	1,703	4,570	4,570
R-squared	0.747	0.741	0.732	0.685	0.735	0.685	0.764	0.768	0.705	0.689
Panel B: Distressed = *ZScore* < 1.81										
IV * Healthy	0.521***	-0.045***	0.539***	-0.058***	0.540***	-0.067***	0.454***	-0.048*	0.304*	0.521***
	(11.834)	(-6.225)	(13.697)	(-7.863)	(11.893)	(-7.711)	(8.157)	(-1.680)	(1.829)	(11.834)
IV * Distressed	-0.124***	0.735***	-0.097***	0.699***	-0.099***	0.694***	-0.301***	1.055***	-0.155***	-0.124***
	(-6.664)	(26.403)	(-7.912)	(30.957)	(-7.328)	(30.401)	(-2.795)	(6.924)	(-3.508)	(-6.664)
DD	-0.143***	-0.053***	-0.116***	-0.073***	-0.117***	-0.079***	-0.192***	-0.008	-0.208***	-0.143***
	(-6.986)	(-5.434)	(-7.699)	(-8.503)	(-7.153)	(-8.541)	(-4.892)	(-1.012)	(-3.573)	(-6.986)
Distressed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	19,970	19,970	25,688	25,688	22,861	22,861	1,731	1,731	4,775	4,775
R-squared	0.753	0.719	0.732	0.678	0.735	0.679	0.786	0.869	0.702	0.689

Table D.4: Banker directors, debt-friendliness, and corporate investment (Dropping the sample between 1997 and 2001)

See Table 1 for the definition of all variables. We drop the sample between 1997 and 2001 in this analysis. We focus on the subsample where *HighFirmTobinsQ* = 1 in the fourth column and *LowFirmTobinsQ* = 1 in the last column. The dependent variables are *PayoutRatio*, *ΔWorkingCapital*, *InterestExpense*, and *TotalInvestment*. Distressed is the indicator taking the value of 1 if *DebtEBITDA* belongs to the top tercile in Panel A and if *ZScore* is smaller than 1.81 in Panel B. Healthy is defined as 1 – Distressed. *BD* is the number of banker directors divided by board size. *DD* is the number of dual-holder directors divided by board size. Controls include *Size*, *TobinsQ*, *LeverageMarket*, *ROA*, and *BlockOwnership* in the first three columns and *Size*, *LeverageMarket*, *ROA*, and *BlockOwnership* in the last two. All explanatory variables are lagged by one year. T-stats clustered at the firm level are in parentheses. Controlled fixed effects, the number of observations, and R-squared are given in the last three rows of each panel. Statistical significance (two-sided) at the 10%, 5%, and 1% level is denoted by *, **, and ***, respectively.

Dependent Variable:	(1) *PayoutRatio*	(2) *ΔWorkingCapital*	(3) *InterestExpense*	(4) *TotalInvestment*	(5) *TotalInvestment*
Subsample:				*HighFirmTobinsQ* = 1	*LowFirmTobinsQ* = 1
Panel A: Distressed = *DebtEBITDA* in top tercile					
BD * Healthy	-0.213	-0.006	0.001	0.007	-0.039
	(-0.863)	(-0.249)	(0.051)	(0.142)	(-0.990)
BD * Distressed	-1.229**	0.128***	0.024***	0.594***	-0.024
	(-2.355)	(4.186)	(2.884)	(3.251)	(-0.490)
DD	-0.313	-0.000	0.008	-0.036	0.017
	(-1.228)	(-0.010)	(1.069)	(-0.746)	(0.660)
Distressed	0.100***	-0.008***	0.002**	0.001	0.001
	(3.391)	(-3.509)	(1.970)	(0.177)	(0.178)
Controls	Yes	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	13,558	16,332	14,289	1,271	2,217
R-squared	0.326	0.138	0.596	0.688	0.522
Panel B: Distressed = *ZScore* < 1.81					
BD * Healthy	-0.228	0.005	0.001	0.092	-0.030
	(-0.834)	(0.185)	(0.109)	(1.289)	(-0.814)
BD * Distressed	-1.157**	0.141***	0.023***	0.593**	-0.010
	(-2.341)	(3.987)	(2.716)	(2.230)	(-0.180)
DD	-0.266	0.016	0.006	-0.031	0.018
	(-1.034)	(0.921)	(0.839)	(-0.468)	(0.684)
Distressed	0.020	0.020***	0.006***	-0.013	0.001
	(0.595)	(6.676)	(6.101)	(-1.122)	(0.181)
Controls	Yes	Yes	Yes	Yes	Yes
FE	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
N	13,595	16,709	14,669	1,292	2,325
R-squared	0.320	0.125	0.589	0.684	0.520