Common Ownership and Credit Risk: Evidence from Credit Default Swaps[*]

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Abstract

This study investigates how common ownership influences firm credit risk. Using credit default swap (CDS) spreads as a proxy for credit risk, we find that firms with higher levels of common ownership exhibit narrower CDS spreads, indicating lower perceived credit risk. This negative relationship remains robust across alternative measures of common ownership, propensity score matching, and difference-in-differences analyses exploiting mergers among financial institutions to address endogeneity concerns. We further identify two mechanisms through which common ownership mitigates credit risk: (1) anti-competitive effects that stabilize cash flows and reduce financial distress by softening product market competition, and (2) governance improvements through enhanced monitoring, which increase investment efficiency and alleviate information asymmetry and agency problems.

JEL classifications: G32, G34, L11

Keywords: Common ownership; Credit risk; CDS spreads; Anti-competitive effects; Corporate governance

1. Introduction

The rise of common institutional ownership—where large investors hold significant stakes in multiple firms within the same industry—has profoundly reshaped corporate landscapes and sparked intense debate over its implications for competition, governance, and firm policies.[1] Over the past decades, institutional investors have become dominant shareholders in U.S. public firms, driven by the consolidation of the asset management industry and the explosive growth of passive investing through index funds and exchange-traded funds (ETFs). This concentration has amplified common ownership, as a few asset managers like BlackRock, Vanguard, and State Street now rank among the largest shareholders in 88% of S&P 500 companies (Fichtner et al., 2017). Common ownership often entails intra-industry under-diversification relative to atomistic holdings, exposing owners to correlated firm shocks (Hemphill and Kahan, 2019). However, common owners may mitigate this disadvantage through information advantages—gleaned from monitoring multiple rivals—and by fostering less intense competition, which stabilizes industry-wide returns and cash flows via coordinated strategies (Gilje et al., 2020; Massa and Žaldokas, 2017).

At the heart of this debate are two primary perspectives on the economic consequences of common ownership. The anticompetitive hypothesis posits that overlapping institutional holdings incentivize firms to internalize externalities, leading to reduced rivalry, higher prices, and enhanced profitability (Azar et al., 2018; Antón et al., 2023; He and Huang, 2017; Jackson, 2018). Empirical evidence supports this view, showing that common ownership elevates market concentration, facilitates tacit collusion in industries like airlines and banking, and promotes strategic behaviors such as joint ventures or alliances that bolster firm stability. In contrast, the

[1] See, for example, Azar et al. (2018), Edmans et al. (2019), He and Huang (2017), Kang et al. (2018), Lewellen and Lowry (2021), Li et al. (2023), and Denicolò and Panunzi (2025).

governance hypothesis argues that common owners leverage their cross-firm portfolios for superior monitoring, employing voice (active engagement) and exit (selling threats) to curb agency problems and improve efficiency (Edmans et al., 2019; Kang et al., 2018; Ramalingegowda et al., 2021; Shi et al., 2024). Institutions with multiple blockholdings exhibit stronger incentives for oversight, resulting in higher CEO turnover sensitivity, better investment decisions, and reduced information asymmetry. However, these effects may be overstated or nonexistent, with common ownership potentially diluting monitoring incentives or failing to alter firm coordination due to passive strategies (Koch et al., 2021; Lewellen and Lowry, 2021). Denicolò and Panunzi (2025) model this as a tradeoff, where anticompetitive gains from softened competition are offset by weakened blockholder governance.

While extensive research examines common ownership's effects on equity and product markets, its implications for credit markets remain understudied.[2] This paper bridges this gap by examining the impact of common ownership on firm-level credit risk, using credit default swap (CDS) spreads as a forward-looking, market-based proxy. CDS spreads, which reflect the cost of insuring against default, offer several advantages over accounting-based measures like Altman's Z-score or expected default frequency models: they incorporate real-time information from sophisticated market participants, are less susceptible to managerial manipulation, and price both the likelihood and recovery rate of default (Callen et al., 2009; Longstaff, Mithal, and Neis, 2005; Pan and Singleton, 2008).

We predict that common ownership lowers credit risk through two channels. First, anticompetitive effects soften rivalry, stabilizing cash flows, reducing volatility, and mitigating

[2] Recent work in emerging markets, such as Li (2025) and Shi et al. (2024), finds that common ownership tends to reduce debt default risk in Chinese and Taiwanese firms, respectively, through resource effects (e.g., stabilized cash flows) and governance effects (e.g., improved monitoring). However, evidence from developed markets using market-based measures is scarce.

financial distress (Azar et al., 2018; Li et al., 2023; He and Huang, 2017). This is evident in innovation contexts, where common owners eliminate redundant R&D, redirect resources, and enhance efficiency in pharmaceutical industries (Li et al., 2023). Second, governance enhancements amplify monitoring, curbing overinvestment, agency conflicts, and opacity (Edmans et al., 2019; Kang et al., 2018). Information transfers across co-owned firms further assist creditors in assessing risks (Massa and Žaldokas, 2017). Overall, common owners are likely to reduce a firm's credit risk. However, it is also possible that common ownership degrades blockholders' monitoring incentives, potentially increasing agency problems and credit risk (Denicolò and Panunzi, 2025). Passive common owners may not enhance monitoring or coordination, potentially diluting incentives and increasing risk in poorly governed firms (Koch et al., 2021; Lewellen and Lowry, 2021). Finally, institutional owners may engage in wealth transfers from debtholders to equity holders through risk-shifting or underinvestment (Eisdorfer, 2010; Becker and Stromberg, 2012). Common ownership could amplify this if owners internalize equity gains across firms. Therefore, the net impact of common ownership on a firm's credit risk is an open empirical question.

Using a sample of 18,580 firm-quarter observations from 2001 to 2023, we document a robust negative association between common ownership and CDS spreads, implying lower credit risk. Univariate analyses show that firms with above-median common ownership, measured by the MHHI delta, exhibit significantly lower CDS spreads than those with below-median levels. In addition, baseline OLS regressions reveal that increases in MHHI delta are associated with reductions in CDS spreads. This result holds when we use alternative measures of common ownership, including cross-holding indicators and connected competitor variables, following He and Huang (2017).

A potential endogeneity concern is that institutions may choose to invest in firms with certain risk characteristics. Unobservable firm characteristics may also correlate with both common ownership and firm risk behavior, which leads to our results being spurious. To address these endogeneity concerns, we exploit a difference-in-differences (DiD) approach around exogenous shocks from financial institution mergers. Upon the merger of two institutions, a firm that is block-held by one of the merging institutions is prone to an elevation in common ownership if a competitor in the same industry was block-held by the other entity prior to the merger. Consequently, the treatment group comprises firms anticipated to experience heightened ownership connections with industry peers solely due to the merger. In contrast, the control group includes other firms block-held within the same institution's portfolio that are not expected to undergo comparable shifts. We find that post-merger increases in common ownership significantly reduce CDS spreads for treatment firms relative to control firms, suggesting a causal impact of common ownership on credit risk. In addition, the propensity score matching analyses yield consistent results.

We further explore the mechanisms. Consistent with the anticompetitive channel, effects are stronger in firms with high cash flow volatility and high financial distress, where common ownership stabilizes operations. For the governance channel, reductions in CDS spreads are more pronounced in firms with high agency costs, weak investment efficiency, and high information asymmetry. Additional robustness tests—refining industry definitions, excluding small industries, and restricting to S&P 500 firms—confirm the findings.

Our contributions are threefold. First, we contribute to the growing body of research examining the real effects of common institutional ownership by demonstrating its impact on credit markets. While prior work extensively documents the effects of common ownership on product

market competition (Azar et al., 2018; Antón et al., 2023; He and Huang, 2017) and corporate governance (Edmans et al., 2019; Kang et al., 2018; Ramalingegowda et al., 2021), its implications for firm creditworthiness remain underexplored. Our findings reveal that both the anticompetitive effects—which soften rivalry and stabilize cash flows—and the governance improvements—which enhance monitoring and reduce agency costs—jointly contribute to lower firms' credit risk.

Second, we advance the literature on CDS by identifying common ownership as an important determinant of credit risk. Previous research shows that CDS spreads are driven by firm-specific factors such as leverage, volatility, earnings quality, information asymmetry, and stock returns (Callen et al., 2009; Ericsson et al., 2009; Galil et al., 2014; Zhang et al., 2009). Our study demonstrates that ownership structure—specifically, the cross-holdings of institutional investors within an industry—significantly affects CDS pricing. This finding enriches both structural and market-based models of credit risk by incorporating product market dynamics and ownership factors in CDS research.

Third, our study sheds light on how product market structure affects corporate financing costs and credit risk. Prior research shows that firms facing intense product market competition incur higher bond spreads and loan rates due to elevated asset risk and financial distress probabilities (Valta, 2012). Our findings suggest that common institutional ownership mitigates this competitive risk channel by softening rivalry, reducing cash flow volatility, and lowering distress risk—ultimately decreasing perceived credit risk. These effects have meaningful policy implications: reduced borrowing costs under common ownership may enable more efficient capital allocation, foster innovation, and support growth opportunities (Li et al., 2023; Antón et al., 2025), revealing a hidden benefit amid antitrust concerns (Azar et al., 2018; Elhauge, 2015; Hemphill & Kahan, 2019).

The remainder of the paper proceeds as follows. Section 2 reviews the literature and develops hypotheses. Section 3 describes the data, variable construction, and summary statistics. Section 4 presents the empirical design and main results, and explores the underlying mechanisms. Section 5 concludes the paper.

2. Literature Review and Hypothesis Development

2.1 Common Ownership: Anticompetitive and Governance Perspectives

Common ownership has attracted considerable interest in finance and economics, driven by the consolidation of institutional investors and the growth of passive investment strategies. A small number of investment firms, including BlackRock, Vanguard, and State Street, currently possess major shares in most S&P 500 companies, resulting in greater cross-holdings across sectors (Fichtner et al., 2017). Such ownership structures frequently involve reduced diversification within industries compared to fragmented investments, leaving holders vulnerable to synchronized risks among companies (Hemphill and Kahan, 2019). To address this lack of diversification, shared owners capitalize on superior insights obtained by overseeing several competitors and focus on maximizing the overall value of their holdings rather than isolated company results, which encourages anticompetitive practices and better oversight through aligned approaches (Gilje et al., 2020; Massa and Žaldokas, 2017). These developments prompt inquiries into their effects on corporate actions, market rivalry, and management practices.

One strand of literature emphasizes the anticompetitive hypothesis, arguing that common ownership incentivizes firms to soften product market rivalry. When investors hold shares in multiple competitors, they internalize the externalities of aggressive competition, leading to higher prices, reduced output, and elevated profitability (Azar et al., 2018; Antón et al., 2023). Azar et al.

(2018) document anticompetitive effects in the U.S. airline and banking sectors, where common ownership correlates with higher market concentration and tacit collusion. Similarly, He and Huang (2017) find that cross-ownership fosters strategic alliances and joint ventures, stabilizing industry dynamics. In innovation contexts, Li et al. (2023) show that common owners reduce redundant R&D efforts in pharmaceuticals, redirecting resources for greater efficiency. These effects can mitigate firm risk by stabilizing cash flows and reducing volatility, particularly in competitive industries (Gilje et al., 2020). However, critics argue that these findings may be overstated; for instance, Koch et al. (2021) and Lewellen and Lowry (2021) suggest that passive ownership does not necessarily lead to active coordination, and observed effects could stem from endogeneity or measurement issues. Recent revisions, such as Azar and Vives (2025), differentiate intra- versus inter-industry common ownership, finding stronger anticompetitive impacts within industries but cautioning against overgeneralization.

Parallel to this, the governance hypothesis posits that common owners enhance monitoring and oversight due to their diversified portfolios and economies of scale in engagement. Edmans et al. (2019) demonstrate that common ownership strengthens governance through "voice" (e.g., proxy voting) and "exit" threats, improving CEO accountability and investment decisions. Kang et al. (2018) find that institutions with multiple blockholdings are more effective monitors, leading to higher turnover sensitivity to performance. Likewise, Ramalingegowda et al. (2021) link common ownership to reduced earnings management, while Pawliczek et al. (2022) show it encourages voluntary disclosure under product market threats. Information transfers among co-owned firms further reduce information asymmetry (Massa and Žaldokas, 2017). However, the governance hypothesis is not without challenges: Denicolò and Panunzi (2025) model a tradeoff

where anticompetitive gains may weaken governance incentives, and empirical evidence is mixed, with some studies finding diluted monitoring in passive funds (Koch et al., 2021).

While the anticompetitive and governance hypotheses are often discussed separately, the literature increasingly highlights their interdependence rather than mutual exclusivity. Theoretical models suggest the channels can reinforce or offset each other. Denicolò and Panunzi (2025) argue that anticompetitive incentives may dilute governance by shifting focus from firm-specific efficiency to portfolio-wide stability, yet governance tools such as incentive contracts can enable anticompetitive strategies (Antón et al., 2023). Hemphill and Kahan (2019) note that anticompetitive behaviors, such as tacit collusion, often require governance interventions like board influence or executive alignment to succeed, particularly in concentrated industries. Gerardi et al. (2024) and Schmalz (2021) also confirm that the channels coexist, with governance facilitating anticompetitive outcomes (e.g., in mergers or labor markets) while potential tradeoffs arise in passive funds. This interplay implies that common ownership's effects are context-dependent, with neither channel operating in isolation. In our study, we explore the two primary channels through which common owners affect firm credit risk.

2.2 Credit Risk and CDS Spreads

Credit risk, the probability of a firm defaulting on its obligations, is a central concern in corporate finance. Accurate measurement of credit risk is essential for debt pricing, capital structure decisions, and financial stability. Traditional measures have well-known limitations. Credit ratings tend to be sticky and backward-looking, often failing to incorporate timely information (Longstaff et al., 2005). Accounting-based measures like Altman's Z-score can be manipulated through earnings management. Bond yield spreads, while market-based, can be

contaminated by liquidity premia and tax effects that obscure the pure default risk component. In contrast, CDS spreads provide a forward-looking, market-based proxy, reflecting the premium for default insurance and incorporating both default likelihood and recovery rates (Longstaff et al., 2005; Pan and Singleton, 2008). Because CDS contracts are traded among sophisticated investors with significant resources at stake, spreads efficiently incorporate diverse information sources and update rapidly to reflect new information (Callen et al., 2009).

Extensive research has identified key determinants of CDS spreads. At the firm level, Ericsson et al. (2009) establish that structural variables such as leverage, asset volatility, and the risk-free rate explain a substantial portion of CDS variation. Zhang et al. (2009) demonstrate that equity market information—including stock returns, return volatility, and jump risks—significantly affect CDS pricing. Galil et al. (2014) extend this work by incorporating macroeconomic factors such as GDP growth, credit market conditions, and liquidity measures, showing that systematic risk factors matter beyond firm-specific characteristics.

Beyond the traditional determinants, recent research highlights how corporate governance and information environment affect CDS spreads. Callen et al. (2009) show that CDS spreads respond to earnings announcements and reflect earnings quality, suggesting that information asymmetry influences credit risk assessment. Lin et al. (2011) document that concentrated ownership and stronger creditor rights reduce the cost of corporate borrowing, while Lin et al. (2013) examine how ownership structure affects the choice between bank debt and public debt. These findings suggest that ownership characteristics such as common ownership—through their effects on agency costs, information asymmetry, and strategic behavior—can influence credit risk. In addition, Valta (2012) finds that intense product market competition increases loan spreads due

to heightened distress risk, suggesting that anticompetitive effects from common ownership could counteract this.

However, the relationship between institutional ownership and credit risk involves potential conflicts of interest. While improved governance and reduced competition tend to lower default risk, institutional investors' primary focus on maximizing equity value may incentivize wealth transfers from debtholders to shareholders. Eisdorfer (2010) and Becker and Stromberg (2012) document such risk-shifting behavior, where equity holders facing financial distress have incentives to undertake risky projects that benefit equity at the expense of debt. Common ownership could potentially amplify these incentives if investors internalize equity gains across their portfolio while bearing limited downside from any individual firm's debt default.

2.3 Hypothesis Development

Building on the theoretical and empirical literature review, we develop hypotheses regarding the relationship between common ownership and firm credit risk. The net effect arises from two complementary channels. First, under the anticompetitive hypothesis, common ownership softens rivalry, leading to more stable cash flows and lower financial distress (Azar et al., 2018; He and Huang, 2017). By internalizing competitive externalities, common owners encourage behaviors that buffer against volatility, such as reduced-price wars or coordinated strategies. This stabilization should be particularly pronounced in firms with high cash flow volatility or financial distress, where credit risk is most acute (Li et al., 2023). Thus, we expect a stronger negative association between common ownership and CDS spreads in such contexts.

Second, the governance hypothesis suggests common ownership improves monitoring, curbing agency problems, overinvestment, and information asymmetry (Edmans et al., 2019; Kang

et al., 2018). Enhanced oversight leads to better resource allocation and transparency, reducing perceived default risk for creditors (Massa and Žaldokas, 2017). This effect should be amplified in firms with high agency costs, weak investment efficiency, or opacity, where governance interventions yield greater marginal benefits.

However, opposing mechanisms could potentially offset or reverse these predicted effects. First, if common ownership primarily reflects passive index investing with limited active engagement, the governance benefits may fail to materialize (Koch et al., 2021; Lewellen and Lowry, 2021). Second, Denicolò and Panunzi (2025) model a tradeoff whereby anticompetitive coordination may weaken governance incentives by reducing the marginal return to firm-specific improvements when portfolio-wide stability is the primary objective. Third, common owners focused on maximizing equity value may encourage risk-shifting or underinvestment that transfers wealth from debtholders to equity-holders (Eisdorfer, 2010; Becker and Stromberg, 2012). If common ownership amplifies these agency conflicts between debt and equity claimants, credit risk could increase. Therefore, we posit:

Hypothesis 1a: Common ownership is negatively associated with CDS spreads, indicating lower credit risk.

Hypothesis 1b: Common ownership is positively associated with CDS spreads, indicating higher credit risk.

3. Data, Variables, and Descriptive Statistics

3.1 Data

We construct our sample using multiple data sources. Institutional ownership data are obtained from Thomson Reuters Spectrum, which compiles 13F filings and reports quarterly equity holdings of U.S. publicly traded firms by institutional investors managing more than $100

million in equity. The database also provides the number of shares with voting rights. CDS data are drawn from the Markit database, which contains CDS spreads across various maturities alongside complementary information such as contract type, the number of unique contributors reporting each day's quote, base currency, and firm-level attributes. To enhance the accuracy of the CDS data, Markit computes a composite daily spread when at least two distinct contributors provide quotes. We then merge the CDS and institutional ownership data with firm-level accounting and financial data from Compustat and the Center for Research in Securities Prices (CRSP). The final dataset includes only firms with overlapping coverage across Thomson Reuters 13F filings, Markit, Compustat, and CRSP. As a result, our sample consists of 18,580 US firm-quarter observations from the first quarter of 2001 through the first quarter of 2023.[3]

3.2 Variable Construction

3.2.1 Common Ownership

Following prior studies (e.g., He and Huang, 2017; Azar et al., 2018), we define an institutional holding as a block ownership when the institution holds more than 5% of a firm's outstanding shares. Common institutional ownership occurs when the same institution simultaneously maintains block holdings in multiple firms within the same four-digit SIC industry in a given year-quarter. In essence, this measure captures the extent to which shareholders hold overlapping ownership stakes across competing firms within an industry.

Following Azar et al. (2018), we measure common ownership using the Modified Herfindahl-Hirschman Index Delta (MHHI delta), which captures the density of the common-ownership network. Specifically, for each firm-quarter between 2001Q1 and 2023Q1, we calculate

[3] Since the Markit database begins its coverage in 2001, our sample period also starts in that year.

MHHI delta as below:

$$MHHI\ delta\ = \sum_j \sum_{k \neq j} S_j S_k \frac{\sum_i \gamma_{ij} \beta_{ik}}{\sum_i \gamma_{ij} \beta_{ij}}, \quad (1)$$

where S_j denotes firm j's market share; β_{ij} represents the ownership share (voting and nonvoting) of firm j held by shareholder i; and γ_{ij} denotes the control share of firm j held by shareholder i, measured using the sole and shared voting shares. The index k refers to firm j's industry competitors. By construction, MHHI delta captures the extent to which competing firms are jointly owned and controlled by common shareholders, thereby reflecting the intensity of common ownership concentration within an industry. Throughout the paper, we denote MHHI delta as *MHHID*.

To ensure the robustness of our main measure, we construct three alternative proxies for common ownership following He and Huang (2017). *CrossDummy* is an indicator variable equal to one if the firm is cross-held by at least one institutional blockholder in a given quarter, and zero otherwise. *NumConnected* measures the number of industry competitors that share at least one common institutional blockholder with the firm. *AvgNum* represents the average number of same-industry firms held by the institutional blockholders of the focal firm. To compute *AvgNum*, we first identify, for each institutional blockholder, the number of other firms within the same industry that the institution holds during that quarter and then calculate the average of these counts across all such institutions.

3.2.2 CDS Spreads

Following prior studies (Ericsson et al., 2009; Zhang et al., 2009; Cao et al., 2010), we focus on the most liquid segment of the CDS market: five-year, USD-denominated contracts written on senior unsecured debt. We further narrow the sample to contracts that adopt the modified

restructuring (MR) clause. For each firm-quarter, we calculate *Spread mean*, defined as the average of all daily par spreads (in basis point) on five-year CDS contracts during the quarter (e.g., Ericsson et al., 2009; Tang and Yan, 2010; Daures-Lescourret and Fulop, 2022) As a robustness check, we also compute *Spread end*, defined as the last reported daily par spread for the five-year CDS contract in the quarter (e.g., Zhang et al, 2009; Galil et al, 2014; Lee and Hyun, 2019).

3.2.3 Control Variables

We control for a comprehensive set of firm-level characteristics commonly identified in the literature as determinants of CDS spreads and credit risk.[4] Specifically, our control variables include ln(*Total assets*) (the natural logarithm of total assets), *MB ratio* (market value of equity divided by book value of equity), *Leverage* (total short- and long-term debt scaled by the book value of total equity), *ROE* (operating income (EBITDA) divided by total equity), *Cash flow volatility* (the standard deviation of operating income scaled by total assets over the prior eight quarters), *Tangibility* (property, plant, and equipment scaled by total assets), *Dividend dummy* (equal to one if the firm pays dividends, and zero otherwise), ln(*Depth*) (the natural logarithm of the number of distinct quote providers), *Retained earnings* (retained earnings scaled by total assets), and *Turnover* (total stock trading volume divided by common shares outstanding).

3.3 Descriptive Statistics

Panels A and B of Table 1 present the summary statistics for our CDS spreads and common ownership measures, respectively. The mean value of the *CDS Spread mean* is 142.97 basis points (bps), with a median of 81.06 bps. Similarly, the *CDS Spread end* has a mean of 143.63 bps and a

[4] See, for example, Ericsson et al. (2009), Zhang et al. (2009), Lin et al. (2011), Qiu and Yu (2012), Lee et al. (2018), and Ball et al. (2020).

median of 81.44 bps. The mean (median) value of *MHHID* is 437.84 (86.84). The *CrossDummy* variable has a mean of 0.63 and a median of 1.00, indicating that, on average, 63% of firm-quarters in the sample are cross-held. The *NumConnected* variable has a mean of 8.19 and a median of 3.00, suggesting that, on average, each firm in our sample shares common institutional owners with approximately 8 same-industry competitors. The *AvgNum* variable has a mean of 3.38 and a median of 1.00, indicating that, on average, the typical cross-holding institution block-holds 3.38 same-industry peers per firm.

[TABLE 1 HERE]

Panel C reports the descriptive statistics of firm characteristics. The sample firms have the average (*median*) total assets of $32,510 million (*$12,102 million*). On average, a firm's leverage ratio is 2.87% (*median: 1.74%*), and the average (*median*) market-to-book ratio is 3.53 (*2.38*). Firms have an average (*median*) return on equity of 12.2% (*9.0%*), and the average (*median*) tangibility ratio is 31.9% (*25.1%*). The mean (*median*) depth of contributors to CDS in a quarter is 5.70 (*5.00*), and the mean (*median*) ratio of retained earnings to total assets is 25.6% (*24.6%*). The average (*median*) dividend dummy is 76.0% (*100.0%*), and the average (*median*) cash flow volatility is 0.9% (*0.6%*). Finally, the average (*median*) turnover ratio of shares is 62.7% (*49.0%*).

Panel D presents pairwise correlations among the four estimates of common ownership, with Pearson correlations below the diagonal and Spearman correlations above. All correlations are positive, indicating consistent relationships among the measures. The lowest Pearson (*Spearman*) correlation is observed between *MHHID* and *CrossDummy* at 0.555 (*0.584*). The highest Pearson (*Spearman*) correlation is observed between *NumConnected* and *AvgNum* at 0.958 (*0.944*). Overall, these patterns suggest that our measures are closely related, supporting their reliability as proxies for institutional cross-holding.

4. Empirical Findings

4.1 Univariate Tests

In this section, we perform a univariate analysis to obtain preliminary insights on the relationship between common ownership and CDS spreads. In Table 2, we split our sample into two groups according to whether *MHHID* is above or below the sample median. Panel A reports the mean and median values of CDS spread measures for each group. The mean (*median*) value of *Spread mean* is 132.471 bps (*78.026 bps*) in firms with *MHHID* above the median and 153.472 bps (*84.650 bps*) in firms with *MHHID* below the median, respectively. Their mean and median differences are statistically significant at the 1% confidence level. Similarly, firms with *MHHID* above the median exhibit significantly smaller mean and median values of *Spread end* compared to firms with MHHID below the median. These results indicate that firms with higher common ownership tend to have lower CDS spreads.

Panel B presents univariate test results for firm characteristics. Firms with *MHHID* above the median generally have larger total assets, higher tangibility, and greater dividend payments, but lower leverage, market-to-book ratio, return on equity, and fewer CDS contributors. Overall, these results suggest that both CDS spreads and firm characteristics are associated with the level of common ownership.

[TABLE 2 HERE]

4.2 Common Ownership and CDS Spreads

In this section, we examine the relationship between common ownership and CDS spreads by estimating the following regression specification:

$$CDS\ Spread_{i,t} = \alpha + \beta \cdot Common\ Ownership_{i,t-1} + \gamma \cdot X_{i,t-1} + \alpha_t + v_i + \varepsilon_{i,t}, \quad (2)$$

where i and t denote a firm and a specific year-quarter, respectively. The dependent variable is either the natural logarithm of the mean CDS spreads (ln(*Spread mean*)) or the quarter-end CDS spreads (ln(*Spread end*)). Common ownership variables include the natural logarithm of one plus the MHHI delta (ln(1+*MHHID*)), the cross-holding dummy (*CrossDummy*), the natural logarithm of one plus the number of cross-held industrial competitors (ln(1+ *NumConnected*)), and the natural logarithm of one plus the average number of block-held industrial competitors (ln(1+ *AvgNum*)). Control variables ($X_{i,t-1}$) are defined as in Section 3.2.3. All regressions include year-quarter fixed effects (α_t) and firm fixed effects (v_i). Standard errors are clustered at the firm-year level, and all independent variables are lagged by one quarter relative to the dependent variable. Based on Hypothesis 1a (*1b*), we expect the coefficient on the common ownership variables (β) to be negative (*positive*) in these regressions.

Column (1) of Table 3 reports the results of regressing ln(*Spread mean*) on ln(1+*MHHID*). The coefficient on ln(1+*MHHID*) is negative and statistically significant at the 1% level, indicating that higher common institutional ownership correlates with lower credit risk. Columns (2), (3) and (4) replace ln(1+*MHHID*) with *CrossDummy*, ln(1 + *NumConnected*) and ln(1 + *AvgNum*) as alternative measures of common ownership variables, respectively. Across all these specifications, the common ownership variables are negatively and significantly related to the mean CDS spreads, demonstrating robustness of this negative relationship. Columns (5) to (8) use ln(*Spread end*) as the dependent variable. The results in these columns are consistent with those reported in columns (1) to (4). Overall, the evidence presented in Table 3 supports Hypothesis 1a that common ownership is associated with lower credit risk as measured by CDS spreads.

[TABLE 3 HERE]

4.3 Endogeneity Issue

In Section 4.2, we document a negative relationship between common ownership and CDS spreads. However, these findings may be subject to endogeneity concerns, such as omitted variable bias and reverse causality. Although we control for several determinants identified in prior literature, unobserved factors could still influence both common ownership and CDS spreads. Furthermore, the baseline estimates may suffer from reverse causality if there is limited exogenous variation in common ownership. To address these potential issues, we conduct additional tests designed to mitigate endogeneity bias.

4.3.1 Difference-in-differences Analysis

To address the endogeneity issue, we conduct an event study using exogenous shocks to common institutional ownership. Following He and Huang (2017), Azar et al. (2018) and Lewellen and Lowry (2021), we utilize financial institution mergers as exogenous shocks because these mergers generate substantial and persistent increases in cross-ownership among affected firm pairs. This approach provides a natural experiment setting that enables credible identification of the casual effects of common ownership on CDS spreads. Importantly, these mergers are generally considered exogenous to the firms themselves, mitigating concerns about omitted variable bias and reverse causality. Firms in the treatment group are those expected to experience increased common ownership solely due to the merger, while the control group comprises firms within the same institution's portfolio that do not undergo similar ownership changes.

We first use the merger between BlackRock and Barclays Global Investors (BGI) as an exogenous event. BlackRock announced the merger in June 2009, and it was completed in

December of the same year. As discussed by Azar et al. (2018), this event had a significant impact on common institutional ownership in certain industries - particularly the airline industry - and has been widely used as an exogenous shock in prior studies (Liang, 2016; Kennedy et al., 2017; Azar et al., 2018; Xie and Gerakos, 2020; Lewellen and Lowry, 2021). In this study, we investigate how the CDS spreads for treatment and control firms evolve before and after the BlackRock-BGI merger.

We estimate the following difference-in-differences (DiD) specification, interacting the treatment indicator and control variables with year-quarter fixed effects:

$$\ln(Spread\ mean)_{i,t} = \sum_{k=-n_{pre}}^{n_{post}} \delta_{DiD}^{k} \cdot Treat_i^k + \sum_{k=-n_{pre}}^{n_{post}} \gamma_{DiD}^{k} \cdot X_i^k + \alpha_t + v_i + \varepsilon_{i,t}, \quad (3)$$

where $Treat_i$ equals to one if the firm i's MHHID increases from one period before the announcement date to one period after completion date, and zero if MHHID does not change over this interval. Based on this definition, $Treat_i^k$ is the interaction between the treatment dummy and the year-quarter fixed effects, indicating a value of one for treated firms in period k and, zero otherwise. Similarly, X_i^k denotes the interaction between control variables and year-quarter fixed effects. α_t and v_i represent year-quarter and firm fixed effects, respectively. Following Azar et al. (2018), we drop the interaction for the quarter immediately preceding the announcement quarter and use it as the baseline period. This specification estimates the dynamic effect of the merger on CDS spreads relative to the baseline quarter, as captured by the δ_{DiD}^{k} coefficients.

The results are presented in Panel A of Figure 1. During the pre-event period, the difference in CDS spreads between treatment and control firms fluctuates around zero, with an overall flat trend prior to the announcement—supporting the parallel trends assumption required for DiD estimation. Following the merger's completion, this trend shifts substantially, with the estimated coefficients becoming significantly negative across all post event periods. These

findings are consistent with our earlier OLS regression results.

[FIGURE 1 HERE]

To formally test the statistical significance of CDS spread reductions around the BlackRock-BGI merger, we estimate the following DiD specification:

$$\ln(Spread\ mean)_{i,t} = \beta \cdot Treat_i \times Post_t + \gamma \cdot X_{i,t-1} + \alpha_t + v_i + \varepsilon_{i,t}, \quad (4)$$

where $Treat_i$ is a dummy variable equal to one if firm i belongs to the treatment group and zero otherwise. $Post_t$ is a dummy variable equal to one for quarters after the merger completion date and zero for quarters prior to the announcement. The event window spans the entire sample period (2001-2023). Columns (1) and (2) of Table 4 present estimates of this specification without and with control variables, respectively. The coefficients on the interaction term $Treat_i \times Post_t$ are significantly negative in both models, indicating that the CDS spreads of treated firms decline following the BlackRock-BGI merger relative to control firms.

[TABLE 4 HERE]

Because the BlackRock-BGI merger occurred during the 2008 financial crisis, the DiD results may partially capture the effects of the crisis rather than the merger itself (He and Huang, 2017; Lewellen and Lowry, 2021). To address this concern, we identify mergers between financial institutions that occurred outside major crisis periods (the 2008-2009 financial crisis and the 2020-2022 COVID-19 pandemic) and uses these mergers as exogenous events. We obtain the mergers from the Security Data Company (SDC) Mergers and Acquisitions database and focus on an event window corresponding to twelve quarters before and after each merger announcement. Given our sample period of 2001-2023, we select mergers announced during 2003–2005 and 2013–2017, ensuring that at least eight quarters before and after the announcements are available outside major crisis periods. In addition, consistent with He and Huang (2017) and Lewellen and Lowry (2021),

we require mergers to satisfy the following criteria: (1) both merging parties (or their parent entities) are 13F-reporting institutions operating in the financial sector (SIC 6000–6999); (2) the merger is completed within one year of the initial announcement; and (3) the target institution ceases filing 13F reports within fifteen months after the completion date. Consequently, 12 financial institution mergers meet these criteria (refer to the list in Appendix A2).

Instead of using the BlackRock-BGI event, we recreate the graph from Panel A of Figure 1 in Panel B using financial institution mergers that occurred outside major crisis periods. The overall trend before the announcement remains flat, and the trend decreases after the announcement with significant coefficients, which are consistent with the results in Panel A. Additionally, we re-estimate Equation (4) using events from non-crisis periods and present the results in columns (3) and (4) of Table 4. The coefficients on the interaction term $Treat_i \times Post_t$ are significantly negative in both models, consistent with those in columns (1) and (2). Overall, the results from the difference-in-differences regressions support our main findings, suggesting that endogeneity is unlikely to bias our results.

4.3.2 Propensity Score Matching Analysis

To address omitted variable bias, we employ a propensity score matching procedure, which enables a closer comparison between firms that share similar characteristics, thereby isolating the effect of common ownership. First, we divide the sample into quartiles based on MHHID and create a dummy variable, *Treat_MHHID*, which equals one if a firm's MHHID is above the first quartile and zero otherwise. We then regress *Treat_MHHID* on our control variables, along with year-quarter and industry fixed effects, employing a logit regression model to estimate the propensity score. Using a nearest-neighbor propensity score matching procedure, each firm with

MHHID above the first quartile is matched to a firm with *MHHID* below the first quartile that has the closest propensity score. This procedure yields a matched subsample consisting of firms with high *MHHID* above the first quartile and their comparable low-*MHHID* counterparts. We re-estimate Equation (2) for this subsample and report the results in Table 5. All coefficients on the common institutional ownership variables are significantly negative in columns (1) to (4), indicating that our earlier findings are robust and unlikely to be driven by omitted variable bias.

[TABLE 5 HERE]

4.4 Possible Channels

We propose two potential channels through which common ownership influences a firm's credit risk: the anti-competitive channel and the governance channel. First, we argue that common ownership reduces competition in product markets, thereby stabilizing cash flow and mitigating financial distress among firms within the same industry. This implies that the effect of common ownership on CDS spreads is expected to be stronger in firms with unstable cash flow and high financial distress. To test this mechanism, following Lin et al. (2011), we measure cash flow volatility as the standard deviation of the ratio of operating income (EBITDA) to total assets over the preceding eight quarters. We then split our sample into firms with cash flow volatility above the top tertile (*High Cash Flow Volatility*) and those below the bottom tertile (*Low Cash Flow Volatility*). We estimate Equation (2) for each group and report the results in columns (1) and (2) of Table 6. In Panels A, B, C, and D, we use ln(1+*MHHID*), *CrossDummy*, ln(1+*NumConnected*), and ln(1+*AvgNum*) as common institutional ownership variables, respectively. All coefficients on these variables are significantly negative for firms with high cash flow volatility (column (1)), but not significant for firms with low cash flow volatility (column (2)). These results indicate the effect

of common ownership on CDS spreads is stronger in firms with high cash flow volatility.

[TABLE 6 HERE]

Next, we measure the level of a firm's financial distress using the Kaplan–Zingales (KZ) index and divide our sample into firms with a KZ index above the top tertile (*High Financial Distress*) and those below the bottom tertile (*Low Financial Distress*). Columns (3) and (4) report the results from estimating Equation (2) separately for each group. All coefficients on common ownership variables are significantly negative, but the coefficient in column (3) is more negative than that in column (4) across all panels. The differences in coefficients between columns (3) and (4) are statistically significant.[5] These results suggest that the effect of common ownership on CDS spreads is stronger in firms with high financial distress.

Based on our main finding of a negative association between common ownership and CDS spreads, we posit that common ownership improves governance through enhanced monitoring, which increases investment efficiency and alleviates information asymmetry and agency costs. Consequently, the effect of common ownership on CDS spreads is expected to be more pronounced in firms with high agency costs, weak investment efficiency, and high information asymmetry. To test this mechanism, we measure agency costs using CEO excess compensation, calculated as the residuals from regressing the natural logarithm of CEO total compensation on Tobin's Q and stock return volatility, following Brick et al. (2006). We divide our sample into firms with CEO excess compensation above the top tertile (*High Agency Costs*) and those below the bottom tertile (*Low Agency Costs*).

Next, we measure investment efficiency by analyzing whether a firm optimally invests. Following Biddle et al. (2009), we estimate a firm-specific investment model with the following

[5] In untabulated analyses, chi-square tests of coefficient equality reveal statistically significant differences between the coefficients.

specification: $Investment_{i,t} = \alpha + \beta \cdot Sales\ Growth_{i,t} + \varepsilon_{i,t}$, where $Investment_{i,t}$ is the sum of research and development expenditures, capital expenditures, and acquisition expenditures, minus cash receipts from sale of property, plant, and equipment, scaled by total assets. $Sales\ Growth_{i,t}$ is the percentage change in sales from quarter *t-4* to *t*. The equation is estimated for each industry-quarter based on the Fama and French 49-industry classification. We sort firms based on the residuals into quartiles and divide our sample into firms in the top and bottom quartiles and those in the middle two quartiles. Firm in the top and bottom quartiles are classified as over- and under-investing, respectively, whereas firms in the middle two quartiles are regarded as optimally investing. We denote these groups as the *Weak Investment Efficiency* and *Strong Investment Efficiency* subsamples.

Lastly, we measure information asymmetry using analyst forecasting errors. Following Core et al. (2006), analyst forecasting errors are defined as the absolute value of the difference between the I/B/E/S consensus forecast of 1-year earnings per share (EPS) and the actual annual EPS, deflated by the stock price at the forecast date. Quarterly absolute forecast error is measured by the absolute value of the forecast error for the fiscal quarter's ending month. Using this variable, we split our sample into firms with analyst forecast errors above the top tertile and those below the bottom tertile, which we denote as *High Information Asymmetry* and *Low Information Asymmetry* groups, respectively.

Columns (5), (7), and (9) present the results for the *High Agency Costs*, *Weak Investment Efficiency*, and *High Information Asymmetry* sample, respectively, while columns (6), (8), and (10) report the results for the *Low Agency Costs*, *Strong Investment Efficiency*, and *Low Information Asymmetry* sample, respectively. Across all panels, the coefficients on the common ownership variables are significantly negative in columns (5), (7), and (9), and are consistently more negative

in magnitude and more statistically significant than the corresponding coefficients in columns (6), (8), and (10). These results suggest that the CDS spread-reducing effect of common ownership is more pronounced in firms with high agency costs, weak investment efficiency, and high information asymmetry. Taken together, the findings in Table 6 support our argument that common ownership mitigates CDS spreads by reducing product-market competition and improving governance through enhanced monitoring and resource allocation.

4.5 Robustness Tests

We conduct robustness tests for our OLS results and present them in Table7. Following previous studies (Clarke, 1989; Kahle and Walkling, 1996; He and Huang, 2017), we first adopt a refined industry definition by excluding firms whose SIC codes have a fourth digit equal to 0 or 9, to address concerns regarding the potentially ambiguous definition of economic markets based on SIC classifications. Using this refined industry definition, we recalculate our common ownership variables and re-estimate Equation (2). The results are reported in column (1). Next, to mitigate potential biases arising from limited observations, we exclude industry-quarters containing fewer than five firms based on 2-digit SIC industry classifications. Using this sample, we re-estimate Equation (2) and report the results in column (2). Finally, we restrict the sample to firms included in the S&P500 index, with the results presented in column (3). Across all specifications, the coefficients on ln(1+*MHHID*) are significantly negative, indicating that common ownership mitigates firms' credit risk as measured by CDS spreads.

[TABLE 7 HERE]

5. Conclusion

This paper investigates the impact of common ownership on firm credit risk, employing credit default swap (CDS) spreads as a forward-looking proxy for perceived default risk. Based on a comprehensive sample of 18,580 firm-quarter observations from 2001 to 2023, we find a robust negative relationship between common ownership and CDS spreads. Baseline OLS results show that increases in the *MHHI*D is associated with reductions in CDS spreads, and this relationship remains robust when alternative proxies for common ownership, such as cross-holding indicators and measures of connected competitors, are employed. To establish causality, we implement a DiD framework around exogenous mergers of financial institutions and find that post-merger increases in common ownership lead to lower CDS spreads for treatment firms relative to control firms. These results are also supported by propensity score matching and additional robustness tests.

We further explore two primary mechanisms underpinning this effect. Consistent with the anticompetitive channel, the risk-mitigating benefits are amplified in firms characterized by high cash flow volatility or elevated financial distress, where common ownership softens product market rivalry to stabilize operations. Through the governance channel, reductions in CDS spreads are more pronounced in firms with high agency costs, weak investment efficiency, or significant information asymmetry, underscoring enhanced monitoring and resource allocation by common owners.

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Appendix A1. Variable Definitions

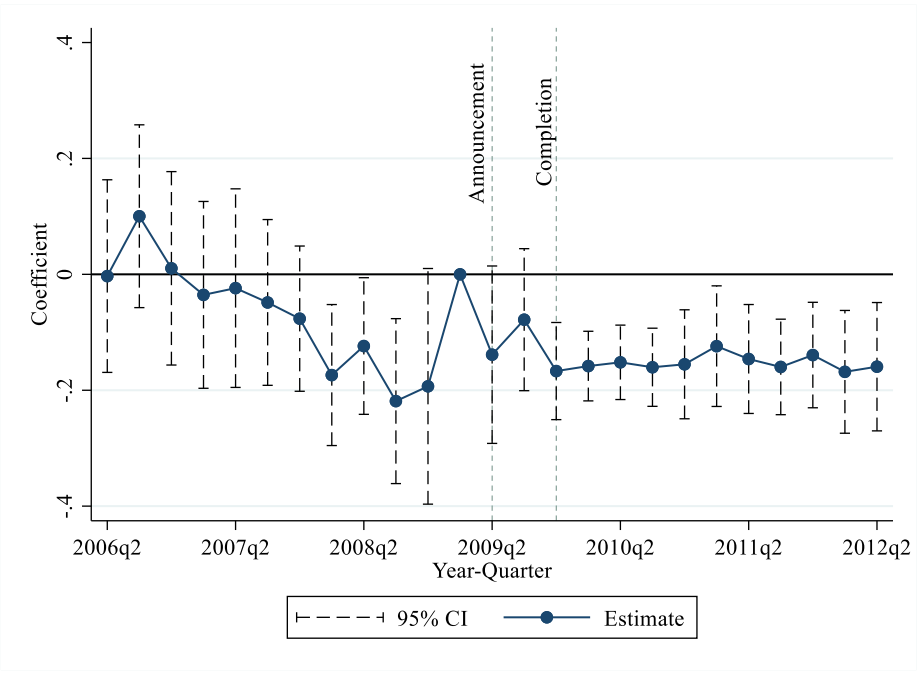
Variable	Definition
CDS Spreads	
Spread mean	The average of all daily par spreads (in basis points) on five-year CDS contracts in a given quarter.
Spread end	The last reported daily par spread (in basis points) on five-year CDS contract in a given quarter.
Common Ownership	
MHHID	MHHI delta, capturing the degree of common ownership concentration within an industry. See Section 3.2.1 for details.
CrossDummy	Indicator variable equal to one if the firm is cross-held by at least one institutional blockholder in a given quarter, and zero otherwise.
NumConnected	The number of industry competitors that share at least one common institutional blockholder with the firm.
AvgNum	The average number of same-industry firms held by the institutional blockholders of the focal firm.
Control Variables	
Total assets	Book value of total assets.
Leverage	Total short-term debt and long-term debt divided by the book value of total equity.
MB ratio	Market value of equity divided by book value of equity.
ROE	Operating income (EBITDA) divided by total equity.
Tangibility	Property, plant, and equipment divided by total assets.
Depth	The average daily number of distinct CD quote contributors during a quarter.
Retained earnings	Retained earnings divided by total assets.
Dividend dummy	Indicator variable equal to one if the firm pays dividends, and zero otherwise.
Cash flow volatility	Standard deviation of operating income (EBITDA) scaled by total assets over the previous eight quarters.
Turnover	Total stock trading volume divided by the number of common share outstanding.
DiD Variables	
Treat	Indicator variable equal to one if the firm's MHHID increases from one period before the announcement date to one period after completion date, and zero if MHHID does not change over this interval.
Post	Indicator variable equal to one for quarters after the completion date and zero for quarters before the announcement date.
Propensity Score Matching Variables	
Treat_MHHID	Indicator variable equal one if a firm's MHHID is above the first quartile, and zero otherwise.
Channel Variables	
High (Low) Cash Flow Volatility	A firm whose cash flow volatility is above (*below*) the top (*bottom*) tertile.
KZ Index	3.139 × book leverage + 0.283 × Tobin's Q – 1.002 × cash flow/total assets – 39.368 × dividends/total assets – 1.315 × cash holdings/total assets.
High (Low) Financial Distress	A firm whose KZ index is above (*below*) the top (*bottom*) tertile.
CEO Excess Compensation	The residual from a regression of the natural logarithm of CEO total compensation on frim value (Tobin's Q) and firm volatility (stock return volatility).
High (Low) Agency Costs	A firm whose CEO excess compensation falls above (*below*) the top (*bottom*) tertile.
Weak Investment Efficiency	A firm whose residual from the firm-specific investment regression falls in the bottom quartile or the top quartile (see Section 4.4 and Table 6 for details).
Strong Investment Efficiency	A firm whose residual from the firm-specific investment regression lies in the middle two quartiles (see Section 4.4 and Table 6 for details).
Forecast Error	The absolute value of the difference between the I/B/E/S consensus forecast of one-year earnings per share (EPS) and the I/B/E/S actual annual EPS, deflated by the stock price at the forecast date.
High (Low) Information Asymmetry	A firm whose absolute forecast error lies above (*below*) the top (*bottom*) tertile.

Appendix A2. Financial Institution Mergers Outside the Financial Crisis and COVID-19 Periods

This table presents financial institution mergers used as identifying events during periods excluding the 2008-2009 financial crisis and the 2020-2022 COVID-19 pandemic. Our analysis focuses on an event window of twelve quarters before and after each merger announcement. Given the sample period of 2001-2023, we select mergers announced during 2003–2005 and 2013–2017, ensuring that at least eight quarters before and after the announcements are available outside outside the financial crisis (2008–2009) and the COVID-19 period (2020–2022). Following He and Huang (2017) and Lewellen and Lowry (2021), we restrict the sample to mergers that meet the following conditions: (1) both merging parties (or their parent entities) are 13F-reporting institutions operating in the financial sector (SIC 6000–6999); (2) the merger is completed within one year of the initial announcement; and (3) the target institution ceases filing 13F reports within fifteen months after the completion date. For each merger, the table reports the announcement and completion dates, the names of the acquiring and target institutions, and their *mgrno* identifiers from the Thomson Reuters Spectrum (13F) database.

Announcement Date	Completion Date	Acquiror Name	Target Name	Acquirer Mgrno	Target Mgrno
14 Apr 2003	30 Apr 2003	Goldman Sachs Group Inc	Ayco Co LP	41,260	5,500
27 Oct 2003	1 Apr 2004	Bank of America Corp	FleetBoston Financial Corp,MA	62,890	38,260
14 Jan 2004	1 Jul 2004	JPMorgan Chase & Co	Bank One Corp,Chicago,IL	58,835	5,955
26 May 2004	3 Jan 2005	Wells Fargo & Co	Strong Financial-Fund Asts	65,850	82,100
19 May 2005	4 Aug 2005	Transamerica Investment Mgmt	Westcap Investors LLC	84,750	92,160
10 Jun 2013	1 Jan 2014	Union Bankshares Corp	StellarOne Corp	14,048	13,087
12 Nov 2014	1 Aug 2015	BB&T Corp	Susquehanna Bancshares Inc	10,000	82,510
30 Oct 2015	29 Jul 2016	KeyCorp,Cleveland,Ohio	First Niagara Finl Group Inc	49,240	20,600
22 Jan 2016	2 May 2016	Legg Mason Inc	EnTrust Capital Inc	50,160	25,400
26 Jan 2016	16 Aug 2016	Huntington Bancshares Inc	FirstMerit Corp	45,495	29,240
2 May 2016	23 Sep 2016	Hennessy Advisors Inc	Westport Advisers LLC	44,465	92,229
2 Oct 2017	2 Oct 2017	Fortress Investment Group LLC	DekaBank Deutsche Girozentrale	6,197	12,273

Panel A: *Treat × Event Year-Quarter* Interaction Coefficients from the DiD Regressions for the BlackRock-BGI Merger



Panel B: *Treat × Event Year-Quarter* Interaction Coefficients from the DiD Regressions for Financial Institution Mergers Outside the 2008-2009 Financial Crisis and 2020-2022 COVID-19 Periods

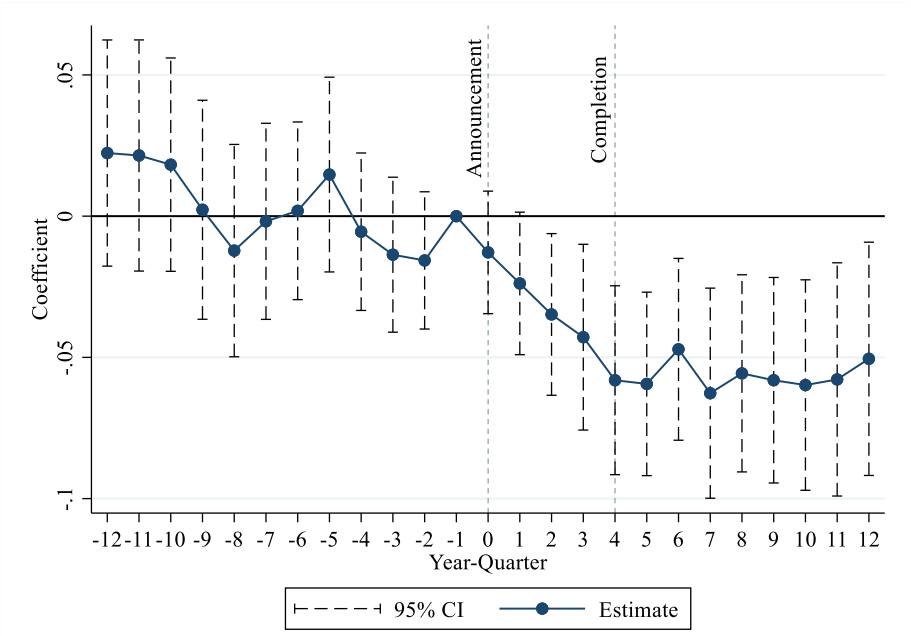


Figure 1. Estimated Coefficients on the Interactions between the Treatment Indicator and Event Year-Quarter

This figure presents the estimated coefficients on the interactions between treatment indicator variable and event year-quarter from the difference-in-differences (DiD) analyses. Panel A reports the interaction coefficients on *Treat × Event Year-Quarter* for the BlackRock-BGI merger, obtained from DiD regressions analogous to those in column (2) of Table 4, except that the treatment indicator is interacted with event year-quarter dummies. The event window for the BlackRock–BGI merger spans the entire sample period (2001-2023). Panel B presents the interaction coefficients on *Treat × Event Year-Quarter* for the non-crisis mergers between financial institutions, based on DiD regressions similar to those in column (4) of Table 4, but with the treatment indicator interacted with event-quarter dummies. For the non-crisis financial institution mergers, the DiD estimations are conducted over a [−12, +12] quarter window around each merger's announcement date.

Table 1. Summary Statistics

This table reports the descriptive statistics for the variables used in our analysis. Panels A, B, and C present summary statistics for CDS spreads, common ownership measures, and firm characteristics, respectively. Panel D reports the Pearson (below the diagonal) and the Spearman (above the diagonal) correlations among the estimates of the common ownership measures, with p-values shown in parentheses. All continuous variables are winsorized at the 1% level. Definitions of all variables are provided in Appendix A1.

Variable	25%	Mean	Median	75%	SD	N
Panel A: CDS Spreads						
Spread mean (bps)	45.639	142.972	81.060	166.300	167.958	18,580
ln(*Spread mean*)	3.821	4.504	4.395	5.114	0.918	18,580
Spread end (bps)	45.676	143.629	81.444	166.662	169.125	18,580
ln(*Spread end*)	3.822	4.505	4.400	5.116	0.923	18,580
Panel B: Common Ownership						
MHHID	0.000	437.836	86.840	359.646	879.611	18,580
CrossDummy	0.000	0.631	1.000	1.000	0.482	18,580
NumConnected	1.000	8.188	3.000	8.000	13.416	18,580
AvgNum	0.333	3.381	1.000	3.333	6.190	18,580
Panel C: Firm Characteristics						
Assets (millions USD)	4,888.740	32,510.289	12,102.000	29,825.300	70,107.031	18,580
Leverage	1.056	2.867	1.739	3.090	8.097	18,580
MB ratio	1.503	3.527	2.379	3.934	6.937	18,580
ROE	0.060	0.122	0.090	0.134	0.289	18,580
Tangibility	0.103	0.319	0.251	0.519	0.248	18,580
Depth	3.015	5.697	5.000	7.203	3.336	18,580
ln(*Depth*)	1.104	1.581	1.609	1.975	0.565	18,580
Retained earnings	0.078	0.256	0.246	0.421	0.316	18,580
Dividend dummy	1.000	0.760	1.000	1.000	0.427	18,580
Cash flow volatility	0.004	0.009	0.006	0.010	0.010	18,580
Turnover	0.338	0.627	0.490	0.744	0.461	18,580

Panel D: Correlation Matrix for Common Ownership Measures

	ln(1 + *MHHID*)	*CrossDummy*	ln(1 + *NumConnected*)	ln(1 + *AvgNum*)
ln(1 + *MHHID*)		0.555	0.766	0.800
		(0.000)	(0.000)	(0.000)
CrossDummy	0.584		0.564	0.619
	(0.000)		(0.000)	(0.000)
ln(1 + *NumConnected*)	0.713	0.537		0.958
	(0.000)	(0.000)		(0.000)
ln(1 + *AvgNum*)	0.720	0.526	0.944	
	(0.000)	(0.000)	(0.000)	

Table 2. Univariate Tests

This table reports the median and mean comparison tests for firms' CDS spreads and firm characteristics across two groups. The sample is divided into two subsamples based on whether a firm's *MHHID* is above or below the sample median. Variable definitions are provided in Appendix A1. The Wilcoxon-Mann-Whitney tests and *t*-tests are used to compare medians and means, respectively. Statistical significance at the 10%, 5% and 1% levels is denoted by *, **, and ***, respectively.

	Sample with *MHHID* Above the Median (N = 9,290)		Sample with *MHHID* Below the Median (N = 9,290)		Difference Test	
Variable	Mean	Median	Mean	Median	Mean	Median
Panel A: Common Ownership and CDS Spreads						
Spread mean	132.471	78.026	153.472	84.650	-21.001***	-6.624***
ln(*Spread mean*)	4.454	4.357	4.554	4.439	-0.100***	-0.081***
Spread end	133.831	78.700	153.428	84.449	-19.597***	-5.749***
ln(*Spread end*)	4.461	4.366	4.549	4.436	-0.088***	-0.071***
Panel B: Common Ownership and Firm Characteristics						
ln(*Total assets*)	9.716	9.709	9.175	9.091	0.541***	0.618***
Leverage	2.461	1.708	3.274	1.768	-0.813***	-0.061***
MB ratio	3.373	2.344	3.681	2.410	-0.307***	-0.065**
ROE	0.105	0.087	0.138	0.094	-0.034***	-0.007***
Tangibility	0.347	0.288	0.290	0.232	0.057***	0.056***
ln(*Depth*)	1.565	1.609	1.597	1.609	-0.031***	-0.000***
Retained earnings	0.256	0.224	0.256	0.261	-0.000	-0.037***
Dividend dummy	0.785	1.000	0.735	1.000	0.051***	0.000***
Cash flow volatility	0.009	0.006	0.009	0.006	-0.000	-0.000***
Turnover	0.623	0.474	0.631	0.504	-0.008	-0.031***

Table 3. Common Ownership and CDS Spreads: OLS Regressions

This table presents the results of OLS regressions to examine the relationship between common ownership and firms' CDS spreads. The dependent variable in columns (1)–(4) is the average of all daily par spreads (in basis points) on five-year CDS contracts in a given quarter (*Spread mean*). In columns (5)–(8), the dependent variable is the last reported daily par spread (in basis points) on five-year CDS contract in a given quarter (*Spread end*). *MHHID* measures the concentration of common ownership within an industry. *CrossDummy* equals one if the firm is cross-held by at least one institutional blockholder in a given quarter, and zero otherwise. *NumConnected* is the number of industry competitors that share at least one common institutional blockholder with the firm. *AvgNum* is the average number of same-industry firms held by the institutional blockholders of the focal firm. Definitions of all other variables are provided in Appendix A1. All independent variables are lagged by one quarter. Continuous variables are winsorized at the 1% level. Standard errors are corrected for clustering at the firm-year level. *t*-statistics are reported in parentheses. Statistical significance at the 10%, 5% and 1% is denoted by *, ** and ***, respectively.

	Dependent variable = ln(*Spread mean*)				Dependent variable = ln(*Spread end*)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ln(1 + *MHHID*)	-0.008***				-0.007***			
	(-4.06)				(-3.79)			
CrossDummy		-0.034***				-0.033***		
		(-3.34)				(-3.27)		
ln(1 + *NumConnected*)			-0.039***				-0.037***	
			(-3.53)				(-3.32)	
ln(1 + *AvgNum*)				-0.068***				-0.062***
				(-5.25)				(-4.72)
ln(*Total assets*)	-0.040*	-0.040*	-0.042*	-0.039	-0.033	-0.033	-0.035	-0.032
	(-1.66)	(-1.65)	(-1.72)	(-1.61)	(-1.35)	(-1.34)	(-1.41)	(-1.31)
Leverage	0.017***	0.017***	0.017***	0.017***	0.017***	0.017***	0.017***	0.017***
	(8.51)	(8.45)	(8.63)	(8.65)	(8.41)	(8.36)	(8.52)	(8.53)
MB ratio	-0.016***	-0.016***	-0.016***	-0.016***	-0.015***	-0.015***	-0.016***	-0.015***
	(-7.69)	(-7.68)	(-7.79)	(-7.76)	(-7.40)	(-7.39)	(-7.49)	(-7.46)
ROE	-0.061	-0.058	-0.062	-0.062	-0.070	-0.068	-0.071	-0.071
	(-1.40)	(-1.35)	(-1.44)	(-1.45)	(-1.58)	(-1.53)	(-1.62)	(-1.62)
Tangibility	-0.285**	-0.285**	-0.274**	-0.285**	-0.261**	-0.261**	-0.250*	-0.261**
	(-2.17)	(-2.16)	(-2.10)	(-2.21)	(-1.98)	(-1.98)	(-1.92)	(-2.01)
ln(*Depth*)	0.058***	0.058**	0.060***	0.060***	0.047**	0.047**	0.048**	0.049**
	(2.59)	(2.57)	(2.64)	(2.68)	(2.08)	(2.07)	(2.13)	(2.16)
Retained earnings	-0.460***	-0.461***	-0.468***	-0.470***	-0.449***	-0.450***	-0.456***	-0.458***
	(-9.31)	(-9.31)	(-9.55)	(-9.60)	(-9.05)	(-9.06)	(-9.27)	(-9.31)
Dividend dummy	-0.155***	-0.154***	-0.155***	-0.155***	-0.146***	-0.145***	-0.146***	-0.146***
	(-6.59)	(-6.57)	(-6.62)	(-6.62)	(-6.16)	(-6.14)	(-6.18)	(-6.18)
Cash flow volatility	2.568***	2.573***	2.469**	2.457**	2.782***	2.786***	2.688***	2.681***
	(2.62)	(2.62)	(2.53)	(2.53)	(2.84)	(2.85)	(2.76)	(2.76)
Turnover	0.370***	0.370***	0.370***	0.369***	0.343***	0.343***	0.344***	0.343***
	(14.65)	(14.62)	(14.68)	(14.70)	(13.45)	(13.43)	(13.48)	(13.49)
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	18,580	18,580	18,580	18,580	18,580	18,580	18,580	18,580
Adjusted *R*-squared	0.791	0.791	0.791	0.791	0.781	0.781	0.781	0.781

Table 4. Common Ownership and CDS Spreads: Difference-in-Differences Estimations

This table presents the results of the difference-in-differences (DiD) estimations examining the effect of common ownership on firms' CDS spreads. *Treat* equals one if the firm's MHHID increases from one period before the announcement date to one period after completion date, and zero if MHHID does not change over this interval. *Post* equals one for quarters after the completion date and zero for quarters before the announcement date. We estimate the following DiD specification by comparing CDS spreads prior to the merger announcement with those after the merger completion: $\ln(Spread\ mean)_{i,t} = \beta \cdot Treat \times Post + \gamma \cdot X_{i,t-1} + \alpha_t + v_i + \varepsilon_{i,t}$. *Spread mean* denotes the average of all daily par spreads (in basis points) on five-year CDS contracts in a given quarter, and $X_{i,t-1}$ denotes the control variables. α_t are year-quarter fixed effects, and v_i are firm fixed effects. Columns (1) and (2) report the results for the BlackRock-BGI merger, while columns (3) and (4) present the results for mergers occurring during periods that exclude the 2008−2009 financial crisis and the 2020−2022 COVID-19 pandemic. The event window for the BlackRock–BGI merger spans the entire sample period (2001-2023). For the non-crisis mergers (i.e., mergers occurring during non-financial-crisis and non-COVID-19 periods), the DiD estimations are performed over a [−12, +12] quarter window around each merger's announcement date. Following He and Huang (2017), we drop the event (merger) quarters from the estimation. Appendix A2 summarizes the selection criteria and lists the merger events included in the non-crisis sample. Definitions of all remaining variables are provided in Appendix A1. All control variables are lagged by one quarter. Continuous variables are winsorized at the 1% level. Standard errors are corrected for clustering at the firm-year level. *t*-statistics are reported in parentheses. Statistical significance at the 10%, 5% and 1% is denoted by *, ** and ***, respectively.

	BlackRock - BGI Merger		Non-Financial Crisis and Non-COVID-19 Period Mergers	
Dependent variable = ln(*Spread mean*)	(1)	(2)	(3)	(4)
Treat × Post	-0.163***	-0.107***	-0.074***	-0.059***
	(-3.90)	(-2.82)	(-4.09)	(-3.74)
ln(*Total assets*)		-0.012		-0.038
		(-0.34)		(-1.02)
Leverage		0.010***		0.017***
		(5.01)		(5.02)
MB ratio		-0.007***		-0.017***
		(-3.08)		(-5.08)
ROE		0.036		-0.098
		(0.74)		(-0.99)
Tangibility		-0.348**		-0.877***
		(-2.11)		(-4.77)
ln(*Depth*)		0.107***		0.033
		(3.35)		(1.04)
Retained earnings		-0.580***		-0.509***
		(-8.46)		(-7.15)
Dividend dummy		-0.127***		-0.176***
		(-4.24)		(-4.83)
Cash flow volatility		3.570**		4.804***
		(2.37)		(2.94)
Turnover		0.422***		0.388***
		(11.59)		(8.49)
Firm fixed effects	Yes	Yes	Yes	Yes
Year-quarter fixed effects	Yes	Yes	Yes	Yes
Observations	8,643	8,643	23,211	23,211
Adjusted *R*-squared	0.759	0.790	0.806	0.830

Table 5. Common Ownership and CDS Spreads: Propensity Score Matching Analysis

This table reports the results of multivariate regressions estimated on propensity score–matched samples of treatment and control firms to examine the impact of common ownership on CDS spreads. The dependent variable is the average of all daily par spreads (in basis points) on five-year CDS contracts in a given quarter (*Spread mean*). *MHHID* measures the concentration of common ownership within an industry. *Treat_MHHID* equals one if a firm's MHHID is above the first quartile threshold, and zero otherwise. *CrossDummy* equals one if the firm is cross-held by at least one institutional blockholder in a given quarter, and zero otherwise. *NumConnected* is the number of industry competitors that share at least one common institutional blockholder with the firm. *AvgNum* is the average number of same-industry firms held by the institutional blockholders of the focal firm. Definitions of all other variables are provided in Appendix A1. All independent variables are lagged by one quarter. Continuous variables are winsorized at the 1% level. Standard errors are corrected for clustering at the firm-year level. *t*-statistics are reported in parentheses. Statistical significance at the 10%, 5% and 1% is denoted by *, ** and ***, respectively.

	Dependent variable = ln(*Spread mean*)			
	(1)	(2)	(3)	(4)
ln(1 + *MHHID*)	-0.006***			
	(-2.63)			
CrossDummy		-0.032**		
		(-2.20)		
ln(1 + *NumConnected*)			-0.046***	
			(-3.55)	
ln(1 + *AvgNum*)				-0.062***
				(-4.30)
ln(*Total assets*)	-0.017	-0.016	-0.022	-0.019
	(-0.54)	(-0.52)	(-0.70)	(-0.59)
Leverage	0.035***	0.035***	0.036***	0.036***
	(7.95)	(7.91)	(8.08)	(8.05)
MB ratio	-0.027***	-0.027***	-0.028***	-0.027***
	(-6.62)	(-6.60)	(-6.69)	(-6.65)
ROE	-0.139*	-0.139*	-0.144**	-0.139*
	(-1.92)	(-1.91)	(-1.98)	(-1.92)
Tangibility	-0.080	-0.070	-0.085	-0.103
	(-0.47)	(-0.41)	(-0.50)	(-0.61)
ln(*Depth*)	0.048	0.049	0.052*	0.053*
	(1.57)	(1.58)	(1.70)	(1.72)
Retained earnings	-0.410***	-0.412***	-0.414***	-0.413***
	(-6.23)	(-6.26)	(-6.32)	(-6.32)
Dividend dummy	-0.187***	-0.187***	-0.185***	-0.187***
	(-5.65)	(-5.65)	(-5.62)	(-5.66)
Cash flow volatility	4.307***	4.299***	4.180***	4.156***
	(3.91)	(3.90)	(3.81)	(3.79)
Turnover	0.278***	0.277***	0.281***	0.280***
	(8.57)	(8.54)	(8.68)	(8.66)
Firm fixed effects	Yes	Yes	Yes	Yes
Year-quarter fixed effects	Yes	Yes	Yes	Yes
Observations	8,996	8,996	8,996	8,996
Adjusted *R*-squared	0.803	0.803	0.803	0.804

Table 6. Common Ownership and CDS Spreads: Possible Channels

This table presents regression results estimated on various subsamples to explore potential channels through which common ownership affects CDS spreads. Following Lin et al. (2011), we measure *Cash Flow Volatility* as standard deviation of operating income (EBITDA) scaled by total assets over the previous eight quarters. Firms with *High Cash Flow Volatility* are those whose volatility measure falls above the top tertile, while firms with *Low Cash Flow Volatility* are those below the bottom tertile. We proxy a firm's financial distress using the Kaplan–Zingales (KZ) index, which is measured as 3.139 × Book Leverage + 0.283 × Tobin's Q – 1.002 × (Cash Flow/Total Assets) – 39.368 × (Dividends/Total Assets) – 1.315 × (Cash Holdings/Total Assets). Firms with *High Financial Distress* are those whose KZ index falls above the top tertile, whereas firms with *Low Financial Distress* are those below the bottom tertile. Following Brick et al. (2006), we measure agency costs using CEO excess compensation, defined as the residual from a regression of the natural logarithm of CEO total compensation on frim value (Tobin's Q) and firm volatility (stock return volatility). Firms with *High Agency Costs* are those whose CEO excess compensation falls above the top tertile, while firms with *Low Agency Costs* are those below the bottom tertile. In addition, following Biddle et al. (2009), we estimate a firm-specific investment model using the specification: $Investment_{i,t} = \alpha + \beta \cdot Sales\ Growth_{i,t} + \varepsilon_{i,t}$, and use the resulting residuals as a proxy for firm-level deviations from expected investment. $Investment_{i,t}$ is defined as the sum of research and development expenditures, capital expenditures, and acquisition expenditures, minus cash receipts from the sale of property, plant, and equipment, scaled by total assets. $Sales\ Growth_{i,t}$ is the percentage change in sales from quarter *t-4* to quarter *t*. We estimate this equation for each industry-quarter using the Fama and French 49-industry classification. Firms are then sorted into quartiles according to the magnitude of the residuals. Firm-quarter observations in the bottom quartile (i.e., the most negative residuals) are classified as under-investing, those in the top quartile (i.e., the most positive residuals) as over-investing, and those in the middle two quartiles as optimally investing. Under- and over-investing observations are denoted as *Weak Investment Efficiency*, whereas optimal-investing observations are denoted as *Strong Investment Efficiency*. Moreover, following Core et al. (2006), we measure information asymmetry using the absolute value of the difference between the I/B/E/S consensus forecast of one-year earnings per share (EPS) and the I/B/E/S actual annual EPS, deflated by the stock price at the forecast date. Quarterly absolute forecast error is calculated as the absolute forecast error for the fiscal quarter's ending month. Firms with *High Information Asymmetry* are those whose absolute forecast error lies above the top tertile, while firms with *Low Information Asymmetry* fall below the bottom tertile. The dependent variable is the average of all daily par spreads (in basis points) on five-year CDS contracts in a given quarter (*Spread mean*). *MHHID* measures the concentration of common ownership within an industry *CrossDummy* equals one if the firm is cross-held by at least one institutional blockholder in a given quarter, and zero otherwise. *NumConnected* is the number of industry competitors that share at least one common institutional blockholder with the firm. *AvgNum* is the average number of same-industry firms held by the institutional blockholders of the focal firm. Definitions of all other variables are provided in Appendix A1. All independent variables are lagged by one quarter. Continuous variables are winsorized at the 1% level. Standard errors are corrected for clustering at the firm-year level. *t*-statistics are reported in parentheses. Statistical significance at the 10%, 5% and 1% is denoted by *, ** and ***, respectively.

Dependent variable = ln(*Spread mean*)	**Anti-competition channel**				**Governance channel**					
	Cash Flow Volatility		*Financial Distress*		*Agency Costs*		*Investment Efficiency*		*Information Asymmetry*	
	High	*Low*	*High*	*Low*	*High*	*Low*	*Weak*	*Strong*	*High*	*Low*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A: MHHID										
ln(1 + *MHHID*)	-0.0095***	-0.0018	-0.0135***	-0.0065***	-0.0104***	-0.0044	-0.0085***	-0.0027	-0.0079***	-0.0014
	(-3.57)	(-0.79)	(-4.60)	(-2.60)	(-4.15)	(-1.59)	(-3.83)	(-1.28)	(-2.87)	(-0.57)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,193	6,193	5,131	5,131	6,001	6,001	8,791	8,791	5,750	5,750
Panel B: CrossDummy										
CrossDummy	-0.0462***	-0.0113	-0.0431***	-0.0415***	-0.0665***	-0.0075	-0.0414***	-0.0124	-0.0458***	-0.0278**
	(-3.20)	(-0.91)	(-2.77)	(-3.15)	(-4.97)	(-0.52)	(-3.43)	(-1.10)	(-3.06)	(-2.18)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,193	6,193	5,131	5,131	6,001	6,001	8,791	8,791	5,750	5,750
Panel C: NumConnected										
ln(1 + *NumConnected*)	-0.0510***	0.0010	-0.0892***	-0.0274**	-0.0305***	-0.0279**	-0.0505***	-0.0088	-0.0247**	-0.0013
	(-4.29)	(0.10)	(-7.03)	(-2.55)	(-2.94)	(-2.15)	(-5.33)	(-0.93)	(-2.02)	(-0.12)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,193	6,193	5,131	5,131	6,001	6,001	8,791	8,791	5,750	5,750
Panel D: AvgNum										
ln(1 + *AvgNum*)	-0.0800***	-0.0051	-0.1246***	-0.0327***	-0.0491***	-0.0466***	-0.0699***	-0.0311***	-0.0581***	-0.0063
	(-5.57)	(-0.40)	(-7.74)	(-2.61)	(-3.96)	(-2.80)	(-6.18)	(-2.60)	(-3.87)	(-0.49)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,193	6,193	5,131	5,131	6,001	6,001	8,791	8,791	5,750	5,750

Table 7. Common Ownership and CDS Spreads: Additional Tests

This table presents regression results from additional tests conducted to provide the robustness of our main findings. To address concerns about the potentially ambiguous definition of economic markets when using SIC codes, and following prior literature (Clarke, 1989; Kahle and Walkling, 1996; He and Huang, 2017), column (1) employs a refined industry classification by excluding firms whose SIC codes have a fourth digit of 0 or 9. To mitigate potential biases arising from limited observations, and following He and Huang (2017), column (2) excludes industry-quarters with fewer than five firms, based on 2-digit SIC industry classifications. Likewise, consistent with He and Huang (2017), Column (3) re-estimates the analysis using only firms included in the S&P 500 index. The dependent variable is the average of all daily par spreads (in basis points) on five-year CDS contracts in a given quarter (*Spread mean*). *MHHID* measures the concentration of common ownership within an industry. Definitions of all other variables are provided in Appendix A1. All independent variables are lagged by one quarter. Continuous variables are winsorized at the 1% level. Standard errors are corrected for clustering at the firm-year level. *t*-statistics are reported in parentheses. Statistical significance at the 10%, 5% and 1% is denoted by *, ** and ***, respectively.

Dependent variable	(1)	(2)	(3)
= ln(*Spread mean*)	*Refined*	*Drop5*	*S&P500*
ln(1 + *MHHID*)	-0.009***	-0.007***	-0.008***
	(-4.04)	(-3.23)	(-4.14)
ln(*Total assets*)	0.010	-0.092***	-0.015
	(0.35)	(-2.87)	(-0.58)
Leverage	0.014***	0.021***	0.017***
	(6.68)	(6.71)	(7.74)
MB ratio	-0.017***	-0.022***	-0.016***
	(-7.08)	(-6.98)	(-6.86)
ROE	0.014	-0.081	-0.084*
	(0.28)	(-1.02)	(-1.67)
Tangibility	-0.021	-0.551***	-0.296**
	(-0.14)	(-3.00)	(-2.13)
ln(*Depth*)	0.065**	0.086***	0.063**
	(2.50)	(3.26)	(2.53)
Retained earnings	-0.570***	-0.419***	-0.390***
	(-9.91)	(-6.59)	(-7.90)
Dividend dummy	-0.202***	-0.183***	-0.170***
	(-7.58)	(-6.10)	(-6.24)
Cash flow volatility	2.608**	5.154***	2.883***
	(2.29)	(4.62)	(2.81)
Turnover	0.408***	0.323***	0.418***
	(13.81)	(10.31)	(15.37)
Firm fixed effects	Yes	Yes	Yes
Year-quarter fixed effects	Yes	Yes	Yes
Observations	13,609	12,886	15,537
Adjusted *R*-squared	0.798	0.803	0.783