# The impact of firms' attention to suppliers' social performance on banks' lending decisions: The mediating role of firms' reputation


## Abstract

This research examines how firms' attention to their supplier's social performance affects the cost of debt. By analyzing syndicated loan data for U.S. firms listed on the S&P1500 index from 2011 to 2023, we discover a notable decrease in the cost of debt following an increase in firms' attention to their suppliers' social performance, aligning with institutional theory and the relational view. We also find that firms addressing suppliers' social performance generates a positive reputation, which serves as a channel for reducing the cost of debt. The impact of firms' attention to their suppliers' social performance on the cost of debt becomes more pronounced amid low financial distress and stronger corporate governance. This effect is more significant when a firm has global operations, greater equity funding, and complies with global health and safety standards. The study provides valuable insights to regulators, banks, and firms for incorporating social risk assessment into credit risk frameworks. Overall, we document that firms that address their suppliers' social performance can secure cheaper loans due to the overall reduction in their credit risk, stemming from suppliers' social transgression.



**Keywords**: Banks, Cost of Debt, Supplier, Social Performance, Institutional theory, U.S. listed firms

**JEL codes**: G21, G32, M11, M14, B52, O16

## 1 Introduction

Existing literature has documented that suppliers' social transgressions negatively influence firms' market capitalization, operational costs, and revenues (Mateska et al., 2023; Roth et al., 2008), which, in turn, affect firms' reputation and value (Klassen and Vereecke, 2012; Clarke and Boersma, 2015). While these studies primarily conclude that suppliers' social risk adversely impacts firms' profitability metrics, they overlook its impact on credit risk. In this paper, we extend this line of literature by examining how firms' attention to their suppliers' social performance influences their credit risk, which, in turn, affects banks' lending decisions.

A diverse group of stakeholders, including investors, regulators, communities, and shareholders, is increasingly scrutinizing firms over supply chain issues (Klassen and Vereecke, 2012). This growing pressure has driven the implementation of regulations aimed at improving suppliers' social performance,[1] and ultimately reducing firms' financial vulnerability. This is particularly important for the U.S., the world's largest buyer and supplier, with $3.2 trillion in global purchases and $2.1 trillion in sales (Office of the United States Trade Representative, 2024). Given its extensive global reach, U.S. firms are highly vulnerable to risks arising from suppliers' weak social performance.

While supply chain partners face the risk of weak social performance, the greatest risk is borne by financial institutions, particularly banks (Nieminen, 2020). Despite banks' significant investment in private loans,[2] they predominantly rely on borrowing firms' financial information for risk evaluation (Zhang et al., 2019). Specifically, lenders base their credit decisions on decision theory, evaluating parameters such as firms' current financial standing, credit score, and past performance (Messier and Hansen, 1988). However, this approach overlooks underlying risks,

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[1] The Uyghur Forced Labor Prevention Act (Public Law No. 117-78) was enacted on December 23, 2021, and supports the prohibition of imports of good manufactured wholly or in part with forced labour in the People's Republic of China, especially from the Xinjiang Uyghur Autonomous Region, or Xinjiang into the U.S. Under 19 U.S.C. 1307 Withhold Release Orders (WROs), the import of goods made with convict, forced, or indentured labour, including child labour, is prohibited. The U.S. Customs and Border Protection (CBP) can detain suspected shipments unless importers prove compliance or re-export them (U.S. Customs and Borders Protection, 2024)

The Corporate Sustainability Due Diligence Directive is an EU regulation, implemented in May 2024, that requires companies worldwide wishing to do business in the European environment to integrate human rights and workforce protection into their operations and supply chains. The directive mandates compliance with these standards to ensure ethical and sustainable business practices. It will apply to all U.S. companies with annual group-wide revenue from the EU market exceeding €450 million, impacting most large U.S. multinationals, regardless of their physical presence in the EU. The directive will enforce the U.N. Guiding Principles on Business and Human Rights, various international human rights, and international labour organization provisions, with significant penalties and private rights of action for non-compliance (American Bar Association, 2024)

[2] Private bank loans are the second-largest source of funds for U.S. firms accounting for 29% of the total corporate funding in 2024. Despite firms in the U.S. primarily relying on bond financing, the asset class of private bank loans has rapidly grown from 18.46% in 2014 to 29% in 2023 (Goldstein et al., 2017; Federal Reserve Bank, 2024)

such as supply chain social risks (Zhang et al., 2019). As a result, unanticipated shocks originating from supply chains, which affect both firms and banks, pose significant threats to the financial stability of the banking sector and can erode banks' equity (Tabachova, 2024). The potential shock increases the need to recognize suppliers' social issues as a key risk at both the firm and institutional levels to reduce overall default risk (Lu et al., 2012; Zhang et al., 2019).

Despite significant concerns and evidence[3] regarding the propagation of risk, few empirical studies have examined how firms' attention to their suppliers' social performance (*FASSP*) influences banks' lending decisions. To address this gap in existing literature, we empirically examine this relationship and provide insights into the channels through which FASSP affects banks' lending decisions. Existing literature offers two competing hypotheses explaining the impact of firms' attention to their suppliers' social performance on the cost of debt. Institutional theory and relational view suggest that firms' efforts to implement suppliers' social improvement programs are driven by legitimacy under state influence (Clarke and Boersma, 2017; DiMaggio and Powell, 1983), and the acquisition of relational rents through financial benefits (Lawson et al., 2015). Supplier development enhances operational efficiency, reduces regulatory penalties, and stabilizes cash flow, reducing firms' credit risk and the cost of debt (Cen et al., 2016).

Conversely, the transaction cost economics view asserts that significant governance costs are associated with supplier development initiatives (Williamson, 1996). These costs impose a financial burden on firms and affect their performance (Kochhar, 1996). High governance costs, along with bilateral dependence between firms and their suppliers, limit external opportunities and reduce bargaining power (Ketokivi and Mahoney, 2020). Supplier development also leads to supplier concentration, which restricts firms' negotiation ability and increases their dependence on a limited set of suppliers (Rahaman et al., 2020). This dependence increases lenders' concerns

[3] Lu et al. (2012) reported on a major supply chain scandal in China in 2008. Menu Foods had to pay $24 million in settlement claims after its suppliers increased the melamine content in pet food to artificially boost protein levels. This supplier's social transgression propagated to banks as well as across borders as the firm was exporting its foods to other countries as well. In a similar incident reported by Ip (2008), Mattel, a toy company, had to recall its 14 million toys because they contained excess levels of leads. The toys contained hazardous parts that could be swallowed by children. Due to this issue, the company faced a number of lawsuits, leading to damaged reputation. Apple Inc. also faced serious backlash when reports surfaced about its suppliers violating human and workers' rights. The company was forced to intervene, investing in improving working conditions across its supply chains. The suppliers' social controversy tarnished Apple's reputation and impacted its financial standing (Clarke and Boersma, 2017). Mateska et al. (2023) analysed the impact of negative news regarding weak social performance of suppliers on firms' stock market performance, providing empirical evidence of stock fluctuation ranging from -0.57% to -0.39% over three days. These cases, along with other companies such as Nike, Adidas, and Sainsbury (as reported by Luo et al. 2012) collectively highlight how suppliers' social transgression can significantly weaken firms' financial health and reputation, ultimately leading to reduced creditworthiness.

regarding firms' ability to maintain operational flexibility and cash flow stability, ultimately leading to a higher cost of debt.

The two competing perspectives provide equivocal predictions and highlight the gap in the literature regarding conclusive findings on the impact of suppliers' social performance on the cost of debt. While the institutional and relational view advocates legitimacy and long-term financial benefits, the transaction cost view emphasizes governance cost and supplier dependence. Therefore, we investigate the competing explanation provided by institutional-relational view and the transaction cost economics view to better understand the effect of FASSP on the cost of debt.

To empirically test our hypotheses, we use a sample of syndicated bank loans granted to U.S. firms listed on the S&P 1500 index from 2011 to 2023. We exclusively focus on U.S. based firms as the U.S. is a partner-in-trade with several countries that have weak enforcement of CSR and ESG policies at the firm level, which increases the vulnerability of banks, as these countries face ethical dilemmas, human rights violations, and health and safety issues. On the other hand, overall investment by banks in private loans is significantly high, implying that a large portion of banks' exposure is linked to supply chain risk in the form of loans to firms. This makes U.S. an ideal market to explore in this study.

To measure firms' attention to their suppliers' social performance, we draw on the seminal work of Ocasio (1997), which provides the theoretical foundation for understanding organizational attention. According to the attention-based view of the firm, a firm's attention is directed by its organizational structures and decision-making processes, often reflected in the formalization of policies. Additionally, the distinct focus of firms on specific issues, opportunities, problems, or threats is managed through established routines, programs, projects, and procedures (Andrews, 1971). Building on this theoretical backdrop, we propose that firms' attention to suppliers' social performance can be captured through indicators of managerial focus or the development of policy initiatives.

To operationalize firms' attention to suppliers' social performance (FASSP), we construct an index that measure FASSP using both direct and indirect performance parameters related to supply chain social performance following prior literature (Wagner, 2010; Lu et al., 2012). The FASSP index is composed of ten binary indicators, constructed using Multi-Criterion Aggregation Procedures (MCAP), as suggested by Guitouni and Martel (1998). In the indirect approach, firms adopt goal-setting theory to ensure suppliers comply with specific policies. Following Baid and

Jayaraman (2022), we choose indirect parameters that reflect suppliers' compliance with internal or external social responsibility policies, such as fair trade, fair competition policy, and forced labor among others. The direct approach aligns with managerial attention to improving suppliers' social performance. In this approach, firms actively engage by investing their own resources to influence suppliers' social behaviors (Wagner, 2010). For measuring FASSP under this approach, we choose parameters including suppliers' health and safety surveys, suppliers' ESG training, and health and safety training. A higher FASSP value indicates greater firm attention to suppliers' social performance, while a lower value reflects limited attention in this aspect.

To investigate the baseline relationship, we follow Chen et al. (2021) and use the Ordinary Least Squares (OLS) method for estimation. Our baseline results indicate a negative association between FASSP and the cost of debt, supporting our hypothesis under the institutional and relational view that banks charge a lower cost of debt to firms that address suppliers' social performance. Our results are economically significant, with a one standard deviation increase in FASSP associated with a decrease in the cost of debt by 3.06 basis points. This negative relationship remains robust to alternative measures of FASSP and the cost of debt, after controlling firm characteristics, loan characteristics, and macroeconomic indicators. The results also remain robust after addressing potential omitted variables using the instrumental variables approach (2SLS) and propensity score matching methods.

We also explore the channel through which FASSP affects the cost of debt. Under the institutional and relational view, enhanced legitimacy leads to an improvement in firms' public perception and reputation, which further attenuates lenders' concerns, resulting in lower monitoring costs and credit risk (Hannibal and Kauppi, 2019; Becchetti and Manfredonia, 2022). We find a stronger association between FASSP and the cost of debt in firms with higher reputations, consistent with our conjecture that a firm's reputation serves as an underlying channel.

We also find that the relationship between FASSP and the cost of debt is moderated by lower financial distress and a higher level of corporate governance. Additionally, we observe that the influence of FASSP on the cost of debt is more negative for firms that comply with global health and safety standards (ISO 18001). Furthermore, firms with a CSR committee at the strategic level, an equity-dominated capital structure, or multinational operations secure cheaper loans compared to their counterparts when addressing their suppliers' social performance.

Our research makes a significant contribution to the supply chain literature by introducing a new perspective on how supply chain risk impacts banks' lending decisions. Existing literature predominantly focuses on the transmission of risk from the supply chain network to financial stability at the country level (Tabachova et al., 2024; Carvalho et al., 2020) or on firms' profitability metrics (Klassen and Vereecke, 2012; Clarke and Boersma, 2015). In contrast, our study establishes a direct relationship between firm-level attention to supply chain social issues and the ability to gain economic advantage through cheaper loans. Building on the findings of Mateska et al. (2023), we extend the analysis to the firm level by exploring the impact of suppliers' social transgressions on long-term financial risk, specifically the cost of debt.

Our study also contributes to the growing literature on corporate finance, particularly in identifying the determinants of the cost of debt. From an ESG perspective, this research makes a valuable contribution by highlighting the amplified impact of the "S" dimension within supply chains in ESG literature. Building on the findings of Baid and Jayaraman (2022), we make a significant methodological contribution by developing a valid and robust instrument to measure firms' attention to suppliers' social performance. Our instrument takes a holistic approach, integrating both direct and indirect parameters of suppliers' social performance, as suggested by Wagner (2010) and Lu et al. (2012). Furthermore, our study validates ongoing concerns of regulators and investors, providing novel empirical evidence that lenders view suppliers' social transgressions as a red flag in credit risk assessment (Deloitte, 2024). Our findings affirm that firms' efforts to mitigate social risks not only enhance their legitimacy but also demonstrate a strong commitment to long-term sustainability, leading to more favorable lending conditions.

The remainder of the paper is structured as follows. In section 2, we review the existing literature and develop the primary and mediation hypotheses related to FASSP and the cost of debt. Section 3 outlines the data and methods. In section 4, we present empirical results, followed by the conclusion in section 5.

## 2 Literature review and hypothesis development

### 2.1 Literature review

Firms that encounter operational or reputational issues due to their suppliers' social performance face decreased market capitalization (Mateska et al., 2023), a tarnished reputation (Roth et al., 2008), and heightened operational risk (Lewis, 2003). To mitigate these potential risks, firms can either invest time and resources for improving their suppliers' social performance or

search for alternative suppliers (Krause et al., 2000). However, the unique economic value of customer-supplier collaboration significantly diminishes when firms frequently change suppliers (Carter et al., 2017). Supply chain disruptions increase operational instability, which can lead to financial distress and a higher default risk (Yun and Yu, 2023).

The relational view suggests that instead of finding new suppliers, firms should engage in knowledge alliances with their suppliers and establish shared governance mechanisms to increase relational rents and minimize financial uncertainties (Dyer and Singh, 1998). Collaboration between firms and suppliers can reduce disruptions and can contribute to financial resilience (Ketokivi and Schroeder, 2004; Blonska et al., 2013), The financial resilience along with long-term customer supplier relationship lower lenders' concern about firms' cash flows and repayment capacity.

Existing literature has documented that institutional theory manifests firm-supplier collaborative efforts under state influence, driven by pressure from various institutions. These include formal institutions such as state regulatory bodies, NGOs, and industry-conformance organizations, as well as informal influences like social norms and values that address social performance within supply chains (Clarke and Boersma, 2017; Heugens and Lander, 2009). Firms that fail to comply with these regulatory expectations may face legal penalties or reputational damage, which can erode profitability. Lai et al. (2006) confirm that these pressures, together with the risk of financial instability, positively influence firms' attention to their supply chain decisions and play a crucial role in making appropriate choices. Once these practices are adopted, they become part of firms' value systems (Tate et al., 2011), leading to increased legitimacy (DiMaggio and Powell, 1983), which in turn reduces financial risk and alleviates lenders' concerns.

On the other hand, the competing theory grounded in transaction cost economics suggests that when firms attempt to mitigate the indirect risk of suppliers' social transgressions, which increase default risk, they incur significant governance costs (Williamson, 1996). Banks primarily rely on quantitative financial metrics such as credit scores, financial ratios, and direct measures of default risk when making lending decisions (Altman, 1968). Moreover, the methods and capacity to quantify the default risk associated with supply chains are not well recognized (Zhang et al., 2019).

Firms investing in supplier social performance must bear both pre-contract costs (such as drafting, negotiating, and safeguarding complex contracts) and post-contract costs (including

misalignment, omissions, disturbances, renegotiation, and sometimes litigation) (Williamson, 1996). Ketokivi and Mahoney (2020) identify that the significant costs of preparing and executing supplier development efforts do not yield immediate financial returns. These governance costs are not reflected on customers' balance sheets, and firms cannot capitalize on them as they do not generate tangible assets. As a result, firms lose bargaining power due to tied-up capital (Dyer, 1997). The increased expenses without a corresponding cash inflow may raise lenders' concern and long-term prospects of the balance sheet.

Additionally, the imposition of governance mechanisms by firms creates implicit expectations that transaction parties share mutual interests in an economically efficient manner. However, these expectations are often undermined by complex interactions and differing expectations between entities (Williamson, 1996). Existing literature highlights that the bilateral dependence between customers and suppliers complicates supplier development initiatives, as emphasized in transaction cost economics. Even after firms invest significant financial resources to develop suppliers, they cannot prevent suppliers from seeking external opportunities (Ketokivi and Mahoney, 2020). The resulting uncertainty from bilateral dependence, along with reduced negotiation ability of firms, poses risks to lenders, jeopardizing their ability to offer favorable lending terms (Rahaman et al., 2020).

## 2.2 Hypothesis development

### *2.2.1 Firms' attention to suppliers' social performance and the cost of debt*

The findings from extant literature, as outlined in the previous section, have yielded inconclusive results regarding the impact of firms' attention to their suppliers' social performance on credit risk determinants. The growing pressure from regulators, governments, and customers on supply chain performance, coupled with banks' concerns about the potential repercussions of supply chain transgressions, have further complicated this relationship.

On the one hand, we anticipate that firms' attention to supplier social performance exerts a positive influence on their legitimacy, leading to improved financial indicators. Financial resilience is driven by reduced supplier disruptions, lower product recalls, and more stable cash flows (Lawson et al., 2015; Mateska et al., 2023), which indirectly improve firms' financial positions and lower default risk. From this perspective, creditors should perceive such firms as less risky due to their efficient operations and stable cash flows, ultimately granting them a lower cost of debt (Cen et al., 2016).

On the flip side, under the transaction cost perspective, firms' attention to supplier social performance incurs significant governance costs and entangles customers and suppliers in inefficient bilateral dependence (Ketokivi and Mahoney, 2020), negatively affecting firm cash-flows and financial resilience. A significant investment in supply chain performance assessment and monitoring, without clear profitability goals, jeopardizes stakeholders' interests and increases lenders' concerns. Supplier concentration is an inevitable outcome of supplier development, which increases firms' risk taking (Zhang et al., 2024) and limits firms' negotiations power (Rahaman et al., 2020). Increased supplier concentration, bilateral dependence, and an inability to predict profitability from investments raise concerns for lenders about future cash flows, motivating them to charge a higher cost of debt financing.

Based on the given theoretical perspectives, we propose the following two competing hypotheses for testing:

**$H_{1a}$***: All else being equal, banks charge a lower cost of debt to firms that implement socially responsible suppliers' development programs.*

**$H_{1b}$***: All else being equal, banks charge a higher cost of debt to firms that implement socially responsible suppliers' development programs.*

### *2.2.2 Firms' attention to suppliers' social performance and the cost of debt: Mediating role of firms' reputation*

As defined by institutional theory, institutions focus on rational behaviors that align with normative and cultural expectations to gain social legitimacy and financial benefit (Czinkota et al., 2014; Lee and Raschke, 2023). Legitimacy, in any form, supports the creation or maintenance of a firm's reputation, both for the company and its wider business operations (Castro, 2021).

Extant literature further documents that assessment and improvement of suppliers' social performance leads to an enhancement in firms' public perception and reputation (Hannibal and Kauppi, 2019) Becchetti and Manfredonia (2022) assert that banks respond to changes in borrowers' reputation by altering the financial terms and conditions. We therefore argue that the reputation of firms acts as a mechanism between lenders' financial decisions and firms' attention to suppliers' social performance. We propose the following mediation hypothesis to test the channel of institutional-relational view:

**$H_{2a}$:** *Firm reputation mediates the relationship between attention to suppliers' social performance and the cost of debt financing.*

### *2.2.3 Firms' attention to suppliers' social performance and the cost of debt: Mediating role of firm performance*

The transaction cost perspective suggests that efforts to improve supplier social performance are predictably linked with high transaction costs including search cost, contracting cost, monitoring costs, and enforcement costs (Dyer, 1997), leading to lower financial performance. In contrast, agency theory supports the design of governance structures that mitigate the agency conflict arising from the possible divergence of interests between shareholders and managers (Kochhar, 1996). According to agency theory, the expenses associated with managing and overseeing the suppliers may be perceived by lenders as unnecessary costs that affect firms' overall performance and financial health. Lenders measure the prediction of corporate bankruptcy using various parameters of firms' performance (Altman, 1968). We argue that firm performance is a mechanism between lenders' financial decisions and firms' attention to supplier social performance. We propose the following mediation hypothesis to test the channel of transaction cost economics perspective:

**$H_{2b}$:** *Firm performance mediates the relationship between attention to suppliers' social performance and the cost of debt financing.*

## 3 Data and methodology

### 3.1 Sample selection.

The initial sample of this paper comprises syndicated loans granted to the United States (U.S.) listed firms from 2011 to 2023 from the Refinitiv/LSEG database. The expansive structure of supply chain networks and extensive engagement with countries with varying regulations makes the U.S. an ideal market to explore for this research. We use the Screener platform of the Refinitiv/LSEG workspace to obtain the loan data. We obtain the initial all-in drawn spread over London Interbank Offered Rate (LIBOR) and other loan information, which includes the loan announcement date, the maturity date, the lenders and borrowers, the loan amount, and the number of lead arrangers from the Refinitiv/LSEG Screener.

We then match the loan data obtained from the Refinitiv/LSEG Screener platform to the firms' attention to suppliers' social performance (*FASSP*) parameters and other covariates data from the Refinitiv/LSEG Workspace. We use a weighted-average index of an array of indicators to estimate the FASSP and drop observations with missing covariates data. All continuous variables are winsorized at the top and bottom 1% to mitigate the impact of outliers. The final

sample comprises 901 firms and 8,233 unique firm-year observations (Panel A: Table 1). We also classify the sample according to Global Industrial Classification Standards (GlCS), as reported in Panel B of Table 1. Loans granted to financial firms [4] are excluded from the sample as these firms have different accounting practices and regulatory requirements. Panel B (Table 1) exhibits that the sample is not concentrated in any single sector, allowing us to analyze the impact of firms' attention to suppliers' social performance on the cost of debt across different sectors.

**[Insert Table 1 here]**

## 3.2 Variable measurement

### *3.2.1 Measuring firms' attention to suppliers' social performance*

To assess firms' attention to their suppliers' social performance, we draw on the attention-based view of the firm proposed by Ocasio (1997). A firm's attention is shaped by its organizational structures and decision-making processes, often manifested through the formalization of policies. To manage specific issues, opportunities, problems, or threats, firms adopt a set of policies or procedures that address these challenges (Andrews, 1971). Building on this backdrop, we suggest that firms' attention to suppliers' social performance can be measured through indicators of managerial focus or the formulation of policy initiatives.

Following prior literature (Wagner, 2010, Lu et al., 2012, Baid and Jayaraman, 2022), we use a combination of suppliers' social performance indicators to measure FASSP. Firms can address their suppliers' social performance either through an indirect or direct approach (Wagner, 2010). Under the indirect approach, firms adopt goal-setting theory to ensure suppliers comply with certain policies. Firms do not commit resources directly to suppliers rather, they motivate improvements through assessments, evaluations, feedback on goal attainment, relying on external market forces and communication to drive performance (Wagner, 2010). For measuring FASSP under the indirect approach, we select parameters that encompass firms' policies on fair trade, fair competition, forced labor, health and safety, child labor, human rights breaches, and human rights, all specifically directed at suppliers, following Baid and Jayaraman (2022).

An alternative method for addressing suppliers' social performance is the direct approach. Direct approach explains the managers' orientation, where firms take an active role by using their own resources to invest in suppliers' education and training. Firm take an active role, offering

[4] We exclude Standard Industrial Classification (SIC) codes of 4310, 4320, 4370, 4390, 4393, 4394, and 4395 being commercial banks, commercial bank one holding companies, personal loan companies, savings & loan holding companies, securities and brokerage firms, and miscellaneous financial companies in these codes.

specific support, like on-site consultation and training, to improve supplier performance and strengthen the relationship through customized investments (Wagner, 2010). For measuring FASSP under this approach, we choose parameters including suppliers' health and safety surveys, suppliers' ESG training, and suppliers' health and safety training. The definitions of FASSP, FASSP direct, FASSP indirect, and all related parameters are provided in Appendix A. All parameters of FASSP are binary in nature, as they indicate the implementation or non-implementation of policies or training, with values of "Yes" or "No", respectively. We construct the index using the following equation:

$$FASSP_{i,t-1} = \sum_{k=1}^{10}(wt.X_{k,i,t-1}) \quad (1)$$

Where $FASSP_{i,t-1}$ measures firm *i*'s attention to suppliers' social performance in year *t-1*. *wt* represents the weights of parameters and $X_{k,i,t-1}$represents the parameters of supply chain social performance including firms' policy for suppliers' fair competition, policy for fair trade, forced labor policy, health and safety surveys, supply chains' ESG training, supply chains' health and safety training, child labor policy, human rights breach policy, health and safety policy, and suppliers' human right policy. We assign equal weights (10% for each parameter) to all parameters using the weighted sum under Multi-Criterion Aggregation Procedures (MCAP), as suggested by Guitouni and Martel (1998). Each weight is then multiplied by its respective value (0 or 1). We then aggregate the results to obtain a unitary FASSP value ranging from 0 to 1. A higher value, closer to 1, indicates that the firm pays greater attention to its suppliers' social performance compared to a firm with a score closer to 0.

*3.2.2 Measuring the cost of debt*

To measure the cost of debt, we use the natural logarithm of initial all-in drawn spread over the LIBOR (in percentage points), denoted as *Ln Spread*. The initial all-in drawn spread represents the total cost of borrowing and accounts for fee spreads, as well as the likelihood that these costs will need to be paid due to the full utilization of the loan (Berg et al., 2016). The natural logarithm of the all-in drawn spread is widely used to measure the cost of debt (e.g., Chen et al., 2021; Chava, 2014). If a loan contract is a variable-rate agreement and more than one all-in drawn spread is reported in a fiscal year, we compute the weighted average initial all-in drawn spread, following prior studies (Chen et al., 2021)

### 3.3 Baseline regression specification

To examine the effect of FASSP on the cost of debt financing, we estimate the following regression specification:

$$Ln\ Spread_{i,t} = \alpha + \beta_1 FASSP_{i,t-1} + \gamma_1 \sum Firm\ covariates_{i,t-1} + \gamma_2 \sum Loan\ covariates_{i,t} + \gamma_1 \sum Macroeconomic\ indicatiors_{i,t-1} + Year_{i,t} + Industry_{i,t} + \varepsilon_{i,t} \quad (2)$$

Where $Ln\ Spread_{i,t}$ represents the cost of debt of firm *i* in the year *t*, and $FASSP_{i,t-1}$ is a proxy for firms' attention to suppliers' social performance. We use one-year lagged values of explanatory variables to limit potential reverse causality. In the baseline regression (2), we control for firm-level covariates, including firm profitability (*ROA*), firm leverage (*Leverage*), firm size (*Ln Assets*), market-to-book value ratio (*MVBV*), and firm capital expenditure (*Ln Capex*)[5].

Following prior literature (Jung et al., 2018; Benlemlih, 2017), we identify that firms with higher profitability (*ROA*) signal financial health, reducing the perceived risk for creditors. On the other hand, higher leverage (*Leverage*) indicates the presence of more debt than equity, increasing financial risk and lenders' concerns about repayment capacity. Larger firms (*Ln Assets*) have a wider geographical reach and better shock absorption capacity due to their size and access to capital markets (Jiang, 2008). Firms with a higher market-to-book value ratio (*MVBV*) and significant capital expenditure (*Ln Capex*) indicate growth potential and strong market expectations, prompting lenders to charge a lower cost of debt (Chen and King, 2014)

Following prior literature (Chou et al., 2023; Chen et al., 2021), we also control the baseline regression (2) for loan-level covariates that include loan maturity (L*n Maturity*), loan size (*Ln Amount*), loan performance covenants (*Loan performance dummy*), loan collateral (*Loan security*), and loan operational-covenants (*Loan covenants dummy*). A larger denomination loan is considered riskier as it increases lenders' capital concentration in a specific project or industry. Similarly, longer maturity loans are deemed more volatile in the long run, as they expose creditors to greater uncertainty over time. As a result, creditors charge a higher rate on these loans (Chen et al., 2021). Loans with additional collaterals indicate less risky transactions, whereas additional performance, financial, or operational covenants imply higher administrative costs, indicating a higher cost of debt for such loan transactions (Jung et al., 2018).

[5] We take natural logarithm of total assets (Ln Assets) and capital expenditure (Ln Capex) to control the skewness, improve normalization and interpretability of the dataset.

We also include macroeconomic-level indicators as covariates, as they capture broader economic conditions that influence the cost of debt. We use *Credit Spread* to control market sentiments and risk perceptions, and *Term Spread* to account for expectations of future economic growth and inflation. To control the industry-specific factors and capture the influence of widespread economic fluctuations, we incorporate two-digit GICS dummies (*Industry*) and year fixed effects (*Year*). Additionally, we cluster standard errors at the firm level to account for within-firm-correlation. The definitions of dependent and explanatory variables are provided in Appendix-A.

## 4 Results and discussion

### 4.1 Sample descriptive statistics.

We report the descriptive statistics of the sample in Table 2. For FASSP, the mean score is 0.386 and its standard deviation is equal to 0.255. The median (average) all-in drawn spread and *Ln Spread* are 140 basis points (163 basis points) and 4.942 (4.984) respectively. Hasan et al. (2017) and Chen et al. (2021) reported an average all-in drawn spread of 199 basis points, and an *Ln Spread* of 5.13 for the U.S. loan market, respectively[6].

**[Insert Table 2 here]**

The median (average) of loan amount (*Ln Amount*) of our sample is 6.548 (6.228). Prior studies (Hasan et al., 2017; Chen et al., 2021) reported an average loan size in the U.S. market of $10.00 million and a *Ln Amount* of 5.23. Our sample loans have an average maturity of 50.585 months, and the median (average) *Ln Maturity* being 4.09 (3.796). Hassan et al. (2017) reported an average loan maturity of 43 months for U.S. firms, while Chen et al. (2021) reported a *Ln Maturity* of 3.65, which is in proximity to our study[6].

In our sample, the median (average) firm size (*total assets*) is $6.942 million ($25.000 million), indicating that the data for firm size is skewed and highlights the presence of firms of various sizes in the sample. We have taken the natural logarithm of firm size (*Ln Assets*), with median (average) reported as 15.753 (15.875). As reported in Table 2, our sample has an average debt ratio (*Leverage*) of 32.772% in its capital structure, and a mean profitability (*ROA*) of 6.711%. The median (average) value for growth prospects (*Ln Capex*) and market-to-book value (*MVBV*) are 12.179 (12.220) and 2.490 (2.686), respectively.

[6] A slight difference in Ln Amount, Ln Spread, and Ln Maturity is attributed to the difference in period of reporting. Chen et al. (2021) reported data for 1998-2015 whereas Hasan et al. (2017) reporting period is 1999-2012.

We also calculate the Pearson correlation coefficients between the dependent variable and explanatory variables (Table 3). In line with our expectations, the correlation coefficient between *Ln Spread* and *FASSP* is negative and significant at the 1% level, indicating that a higher FASSP is associated with a lower cost of debt.

**[Insert Table 3 here]**

### 4.2 Effects of FASSP on the cost of debt financing

Following prior literature (Swanpitak et al., 2020), we use the Ordinary Least Square (OLS) method to examine how firms' attention to supplier social performance affects the cost of debt financing and report the results in Table 4. Column (1) reports the result examining the relationship between *FASSP* and *Ln Spread* in the absence of any covariates. Column (2) reports the OLS results in the presence of firm-level covariates (*ROA, Leverage, MVBV, Ln Assets*, and *Ln CAPEX*). Column (3) reports the OLS results in presence of loan-level covariates (*Ln Maturity, Ln Amount, Loan Covenants Dummy, Loan Performance Dummy, and Loan Security*) as well as macroeconomic indicators (*Term Spread* and *Credit Spread*), in addition to firm-level covariates. We further control the baseline regression specification (2) for *Year* and *Industry* fixed effects at all levels (columns 1-3).

**[Insert Table 4 here]**

The coefficient for *FASSP* reported in column (1) is -0.441, which is negative and statistically significant at the 1% level. This indicates that firms that pay a higher level of attention to their suppliers' social performance receive lower interest rates. As shown in column (2) and (3), *FASSP* remains statistically significant and negatively associated with *Ln Spread* at least at the 5% level after controlling for firm-level, loan-level and macroeconomic indicators across all specifications. The influence of firms' attention to suppliers' social performance on the cost of debt (*Ln Spread*) is also economically significant. We calculate that a one standard-deviation increase in *FASSP* leads to a reduction of 3.06 basis points[7] in the average initial all-in drawn spread.

These results are consistent with our hypothesis $H_{1a}$ and validate the concerns of Mateska et al. (2023) that transgressions of supplier responsibility propagate to customers, leading to increased credit risk. The validation of $H_{1a}$ indicates that if firms pay attention to suppliers' social

[7] Following Chou et al. (2023) we estimate the economic significant of impact of *FASSP* on the cost of debt. We first take the standard deviation of *FASSP* (0.255) from *Table 2: Summary statistics of variables* and co-efficient of FASSP (-0.120) from *Table 4: Firms' attention to suppliers' social performance and the cost of debt (column 3*). We then calculate the economic significance as 0.255x-0.120=-0.0306 or 3.06 basis points.

performance, they achieve material economic benefits in the form of cheaper loans. This supports our institutional theory perspective that customers gain relational rents in the form of cheaper debt financing, whereas suppliers, through institutional isomorphism, adopt supplier development practices from customers under institutional isomorphism to reap the economic benefit of higher trade volumes (Krause et al., 2000).

The control variables in Table 4 exhibit patterns consistent with those reported in the extant literature. For instance, firms' profitability (*ROA*) and firm size (*Ln Assets*) are negatively related to *FASSP* at the 1% level of significance in columns (2) and (3). This implies that firms with higher profitability and larger sizes typically secure lower interest rates due to strong financial health. Growth prospects (*MVBV* and *Ln Capex*) are negatively and significantly related to *FASSP* at least at the 10% level across all specifications in the columns (2) and (3), indicating that improved growth prospects reduce lenders' concerns and lead to cheaper debt financing. The *Leverage* ratio is positively and significantly associated with the cost of debt at the 1% level in columns (2) and (3), reflecting lenders' growing concerns about higher debt levels in a firm's capital structure.

## 4.3 Robustness tests

### *4.3.1 Endogeneity of FASSP*

Endogeneity is a potential problem when examining firms' attention to suppliers' social performance and its effects on the cost of debt. Specifically, firms with better attention to suppliers' social performance might possess other characteristics that remain unobserved in our previous regression specification and may influence the relationship, leading to reverse causality issues. To mitigate these issues and test the robustness of our results, we adopt the two-staged least squares (2SLS) method with instrumental variables for firms' attention to supplier social performance.

Following prior literature (e.g., Barrientos and Smith, 2007; Schembera, 2018), we introduce two instrumental variables to address potential endogeneity. Our first instrument is compliance with the Ethical Trading Initiative (*ETI*[8]), and the other is conformance with United Nations Global Compact (*UNGC*[9]). We construct dummy variables for each instrument, indicating whether the firm complies with *ETI* or *UNGC*. The theoretical intuition behind these instruments draws from

[8] The Ethical Trading Initiative is a UK-based organization that aims to improve the working condition of people across global supply chains. The organization was founded in 1998, and it aims to bring trade unions, NGOs, and all types of business together to promote ethical trading practices and improve compliance with international labour laws (Ethical Trading Initiative, 2024)

[9] The UN Global Compact (UNGC) is an initiative launched by the United Nations to encourage businesses and organizations to adopt sustainability and socially responsible practices. It comprises 10 principles for human rights, the labour, the environment, and anticorruption etc (Office of the United Nations Global Compact, 2024)

legitimacy theory, as compliance with conformity standards paves the way for reduced human rights risk across value chains, leading to greater legitimacy (Amer, 2018). Moreover, the stakeholder view advocates the inclusion of external governance mechanisms such as ETI, which will help align the interests of all stakeholders, motivating firms to improve labor conditions and comply better with human rights policies (Hughes, 2001).

On the flip side, the implementation of *UNGC* and *ETI* does not directly influence company performance or profitability (Mattera and Morales, 2021; Hughes et al., 2007). Since the implementation of conformance standards aligns with multi-stakeholder initiatives and emphasizes supply chain quality, we believe the instruments are independent of one another. Additionally, we could not find any direct relationship between these instruments and firms' creditworthiness, except through firms' increased focus on suppliers' social performance, supporting the validity of our instruments. We also control for year and industry fixed effects at each stage of the 2SLS to address potential endogeneity arising from industry-specific factors or the overall economic situation in a specific year.

Columns (4 & 5) of Table 4 illustrate the 2SLS instrumental variable regression results for the sample. As shown in column (4), the estimated F-statistics value indicates that both *ETI* and *UNGC* are valid instruments, while the estimated coefficients are significant at the 1% level, indicating the instruments are strong predictors of *FASSP*. The estimated coefficient of *FASSP,* as reported in column (5), indicates that fitted results of *FASSP* are significantly and negatively associated with the *Ln Spread* at the 10% significance level. Moreover, the p-value of F-test ($p<0.001$) indicates that both *ETI* and *UNGC* fulfil the relevance conditions. The estimated coefficient of the Kleibergen-Paap LM statistic (41.911) is also significant at the 1% level, indicating the rejection of null hypothesis of under-identification. We have adequate reason to reject the null hypothesis of weak instruments based on the Kleibergen-Paap Wald F-statistic of 170.67 ($p < 0.001$), indicating strong instruments in our model. In addition, the Hansen J-statistic of 0.937 (p-value = 0.3332) suggests that the instruments satisfy the exogeneity condition, indicating no evidence of correlation with the error term.

*4.3.2 Propensity score matching (PSM)*

It could be argued that the association between FASSP and the cost of debt is influenced by other firm-specific or loan-specific characteristics. To further ensure that the observed effects of *FASSP* on *Ln Spread* are free from the effects of confounding variables, we construct a new sample

using propensity score matching, following Swanpitak et al. (2020). We first construct a *FASSP dummy* to classify our sample into sub-groups based on the mean value of *FASSP*. Firms where the *FASSP dummy* is equal to 1(0) are considered the treatment (control) group. We then match each treated firm to one control firm in the same industry and year with the nearest PSM score. We report the first-stage probit regression results and mean test results between treatment and control groups in Panel A and Panel B of Table 5, respectively.

**[Insert Table 5 here]**

Column (3) of Panel A (Table 5) exhibits the estimated coefficients and p-values of covariates in treatment sample, which are in line with our baseline regression results reported in Table 4. The means differences of the covariates at all three levels (firm-level, loan-level and macro-economic level) as reported in Panel B of Table 5 shows that treatment firms and control firms exhibit no statistically significant difference in their mean values. This indicates that the two groups are comparable in terms of covariates and validates our results. Finally, we repeat our baseline regression specification using the matched sample and report the results in Table 5 (Panel C). The estimated coefficient of *FASSP* in column (1) is negative and statistically significant at the 5% level, indicating a robust effect of *FASSP* on the cost of debt (*Ln Spread*) after controlling covariates at the firm-level, loan-level, and macro-economic level.

*4.3.3 Alternative proxies for FASSP and cost of debt financing*

In our baseline analysis (equation 2), we use a weighted composite of direct and indirect parameters to proxy for overall firms' attention to suppliers' social performance. In this section, we further examine the robustness of our findings by decoupling the direct and indirect parameters of *FASSP* following Wagner (2010). We first separate the direct[10] parameters and assign weights to all parameters using the weighted sum under Multi-Criterion Aggregation Procedures (MCAP), as suggested by Guitouni and Martel (1998), to construct *FASSP Direct*. We perform the same operation with the indirect parameters[11] to construct *FASSP Indirect,* using the MCAP weighting method and assign equal weights to all parameters. We then re-estimate the baseline regression (2) using these two proxies for *FASSP* with altered weights and parameters and report the results in columns (1 & 2) in Table 6. The results show that *FASSP Direct and FASSP Indirect* are

[10] As discussed in section 3.2.1, direct parameters for measuring FASSP include suppliers' health and safety surveys, suppliers' ESG trainings, and suppliers' health and safety trainings.

[11] As discussed in section 3.2.1, Indirect parameters include firms' policy for fair trade, policy for fair competition, forced labour policy, health and safety policy, child labour, policy, supplier human right breach policy, and supplier human right policy.

significantly and negatively associated with *Ln Spread* at the 1% level. This supports our hypothesis $H_{1a}$ that lenders charge a lower risk premium if firms pay more attention to their suppliers' social performance.

**[Insert Table 6 here]**

We also test the robustness of our instrument, *FASSP,* used in our baseline regression (2) using additive adjustment method[12] described by Neumayer and Plumper (2017). First, we collect firm-level data on *strikes*, *contractors' fatalities*, and *contractors' accidents* and construct a weighted dummy variable to represent the presence of any of these incidents. We then adjust our *FASSP* for these negative incidents and re-estimate the baseline regression with *FASSP Adjusted*. We report the regression specification results for *FASSP Adjusted* in column (3) of Table 6. The results indicate that *FASSP Adjusted* significantly and negatively influences the cost of debt at the 1% level, supporting our hypothesis $H_{1a}$.

We also repeat our baseline regression using an alternative proxy for the cost of debt. Our primary measure of the cost of debt (*Ln Spread)* is the natural logarithm of the all-in drawn spread. However, following Berg (2016), we exclude all lenders' fees and examine the influence of *FASSP* on the interest rate spread only. Following Chen et al. (2021), we take the natural logarithm of the interest rate spread (*Ln interest rate*) and substitute it into our baseline regression specification (2). We report the results for the alternative proxy of the cost of debt in column (5) of Table 6. The results show that *FASSP* significantly and negatively influences the alternative proxy for the cost of debt (*Ln interest rate*) at the 1% level. Overall, our results for alternative proxies demonstrate that our findings are robust and are not driven by a specific measure of firms' attention to suppliers' social performance or the cost of debt financing.

*4.3.4 Additional control variables*

To further mitigate the problem of omitted variables and to account for endogeneity, we introduce additional covariates at the firm level to our baseline regression (2), following Chou et al. (2023), and report the results in column (4) of Table 6. The additional control variables include *property, plant, and equipment (PPE)*, *net profitability*, *sales growth*, *tangibility*, *current ratio*,

[12] The additive adjustment method involves modifying a variable to account for additional noise, especially when external events (such as *strikes, contractors' fatalities, and contractors' accidents*) may distort the original measurement. In Stata, we chose *Additive Noise Model* and added noise (strikes, contractors' fatalities, and contractors' accidents) however, instead of generating random values, we used the real values to adjust the construct FASSP for negative noise after confirming that data is normally distributed.

*firm age*, and *volatility*. A higher amount of *property, plants, and equipment*[13] indicates firms' capital investment and serves as a proxy for their operational scale (Li et al., 2018). *Sales growth* and *net profitability* are positively associated with firm value, which, in turn, lowers credit risk. *Firm age* indicates the firm's history in the industry, whereas higher *tangibility* typically poses less risk to creditors due to availability of tangible assets (Chou et al., 2023). A higher *current ratio* indicates a firm's ability to meet short-term repayment needs, influencing the cost of debt financing decisions. After controlling the additional variables, *FASSP* remains negatively and significantly associated with the *Ln Spread* at least at the 5% level, further affirming the robustness of our results.

## 5 Channel Analysis

### 5.1 Mediating role of firm-reputation between FASSP and the cost of debt

In section 2.2.2 and 2.2.3 under institutional-relational view and transaction cost economics view, we propose two channels through which FASSP indirectly affects the cost of debt. Thus far, we have established the first-order relationship between FASSP and the cost of debt and have validated our hypothesis $H_{1a}$, which posits that increased FASSP leads to a lower cost of debt due to enhanced legitimacy and relational rents. We now further examine the mechanism through which *FASSP* influences the cost of debt. Specifically, we test firm-reputation as a channel, as proposed in our mediation hypothesis ($H_{2a}$) and explore whether FASSP enhances firms' reputation, which in turn reduces lenders' concerns about the cost of debt.

Following Chou et al. (2023), we perform a subsample analysis to test the proposed channel. We first collect the data on firm reputation using a proxy, *CSR awards,* as receiving these awards reflects a firm's serious commitment to CSR practices and reporting, thereby enhancing its social reputation (Uyar et al., 2024). We construct a dummy variable, *firm reputation,* and assign a value of 1 to firms that have received any CSR award in a specific year, and 0 otherwise. We then re-estimate the baseline specification (2) for each sample and report the results in Table 7 (Panel A). We observe that firms with a higher *firm reputation* (column 2) have larger coefficients in magnitude compared to firms with a lower *firm reputation* (column 1), both significant at least at the 10% level. We calculate the difference in coefficients and perform the chi-square test, which shows a significant difference in coefficient estimates between the two subsamples at the 1% level, well above the critical value. The results support our hypothesis $H_{2a}$ that greater legitimacy attained

[13] We take natural logarithm of property, plant, and equipment for better interpretation.

through *FASSP* increases firms' reputation, which in turn reduces lenders' concerns about the firms' legitimacy and negatively influences the cost of debt.

**[Insert Table 7 here]**

Through subsample analysis, we have validated that firms' reputation mediates the relationship between FASSP and the cost of debt. In this section, we aim to quantify the extent to which FASSP directly influences the cost of debt, as well as the indirect impact mediated through firm reputation. To measure it empirically, we draw on the approach of Ali et al. (2022) to construct a path model and posit the following equation:

$$Ln\ Spread_{i,t} = \alpha + \beta_1 FASSP_{i,t-1} + \beta_2 Firm\ reputation_{i,t-1} + \gamma_1 \sum Firm\ covariates_{i,t-1} + \gamma_2 \sum Loan\ covariates_{i,t} + \gamma_1 \sum Macroeconomic\ indicatiors_{i,t-1} + Year_{i,t} + Industry_{i,t} + \varepsilon_{i,t} \quad (3)$$

In equation (3), $\beta_1$ represents the direct effect of FASSP on the cost of debt. The indirect effect is calculated by multiplying $\beta_1$ from equation (2) and $\beta_2$ from equation (3). We control the path regression (equation 3) for firm covariates, loan covariates, and macroeconomic indicators, along with year and industry effects. The results for the path regression are presented in Table 7 (Panel B & C).

As reported in column (1) of Panel B (Table 7), we find a negative and significant effect of *FASSP* on the cost of debt after accounting for the mediated effect of *firms' reputation*. We also observe a negative and significant effect of *firms' reputation* on the cost of debt (column 1), which aligns with our expectation and existing studies establishing the relationship between firms' reputation and the cost of debt (Becchetti and Manfredonia, 2022; Liu et al., 2023). Importantly, we also find a positive and significant effect of firms' reputation on *FASSP* (column 2) which is also consistent with the extant literature (Castro, 2021).

We use non-linear combinations of estimators' test to accurately calculate the indirect effect of *FASSP* on the cost of debt through *firms' reputation* and report the mediation results in Panel C of Table 7. The mediation effect (i.e., indirect effect) is -0.010, significant at the 1% level. From baseline regression (2), the direct effect of *FASSP* on the cost of debt is -0.120, also significant at the 1% level. Taken together, the total effect is -0.1303[14], indicating that the mediated portion of *FASSP* attributed to *firms' reputation* accounts for 7.35% of the total effect. Overall, our findings

[14] Total Effect=Direct Effect Indirect Effect= =−0.120+(−0.010) = −0.130

suggest that *firm reputation* serves as the channel through which *FASSP* influences the cost of debt, thus validating our mediation hypothesis $H_{2a.}$

### 5.2 FASSP, moderating role of financial distress, and the cost of debt

We have previously argued that firms' attention to supplier social performance leads to a lower cost of debt financing by improving legitimacy, and that firm reputation mediates this relationship. In this section, we provide empirical evidence to validate that financial distress moderates the relationship between FASSP and the cost of debt financing. If firms' attention to supplier social performance increases legitimacy (Clarke and Boersma, 2017), the effect of this relationship should be more pronounced in firms with lower financial distress.

To measure financial distress, we use both market-based and accounting-based measures, as each conveys significant information about financial distress and bankruptcy risk (Agarwal and Taffler, 2008). We first classify the full sample into three categories based on proxies, including Altman's *Z-score*, Credit Default Spread (*CDS*), and the firm's *beta*, with Altman's *Z-score* serving as an inverse proxy to *CDS* and *beta*. To calculate Altman's *Z-score*, we obtain financial parameters[15] data from LSEG/Refinitiv and compute it manually at the firm-level. *CDS* scores are sourced from NUS CRI[16], and we use the expected default frequency over a one-year time horizon, following Longstaff et al. (2005). *Beta* values at the firm-year level are also obtained from LSEG/Refinitiv. After calculating proxies, we re-estimate the baseline specification (2) for each sub-sample and report results in columns (1-6) of Table 8.

**[Insert Table 8 here]**

Columns (1) and (4) of Table 8 demonstrate that the estimated coefficients for firms with high *Z scores* and low *CDS* are negative and significant at the 1%. This indicates that the effect of firms' attention to suppliers' social performance on the cost of the debt is more pronounced when financial distress is lower. Additionally, firms with lower *beta* (column 6) exhibit higher coefficient magnitudes compared to firms with higher *beta* (column 5), with both coefficient significant at least at the 10% level. We calculate the difference in coefficients and conduct a chi-square test,

[15] We obtain firm-level year wise data for working capital, retained earnings, EBIT, market value, sales, and total assets and use Altman Z-Score = 1.2A + 1.4B + 3.3C + 0.6D + 1.0E to compute the z score for each firm for 2011-2023.

[16] CRI NUS (Centre for Research in International Finance at National University of Singapore) has a goal to advance research in international finance through interdisciplinary studies and collaboration, for which it provides non-subscription services of data collection and data dissemination for benefit of researchers. It aims to contribute to global financial knowledge and practice (https://nuscri.org/en/)

which reveals a statistically significant difference in the coefficient estimates between the two subsamples at the 1% level. These results support our conjecture that, as firms achieve greater statutory conformance and legitimacy, lenders' concerns are further attenuated in the presence of lower default risk.

### 5.3 FASSP, moderating role of corporate governance, and the cost of debt

Our baseline hypothesis ($H_{1a)}$ suggests that firms addressing supplier social performance receive cheaper loans from banks. We further argue that aligning managers' goals with those of shareholders further mitigates lenders' concerns (Kochhar, 1996). Following prior literature (Lin et al., 2014), we use *firm governance* score, *board affiliations*, *board Independence*, and *board duality* as proxies for corporate governance, all obtained from LSEG/Refinitiv. We classify our sample into low-and high-governance firms based on the sample mean and then re-estimate our baseline regression (2) for each sub-sample. The regression results for all specifications of the corporate governance variables are reported in Table 9.

**[Insert Table 9 here]**

The results shown in columns (1-8) of Table 9 demonstrate that across all regression specifications, the estimated coefficients for firms with higher *corporate governance* (column 2), more *board affiliations* (column 4), a more *independent board* (column 6), and a non-dual CEO/chairman (column 8) are significant and negative at least at the 5% level. This indicates that banks evaluate agency risk when making lending decisions, and lenders' concerns are reduced in the presence of higher FASSP and a strong governance structure.

## 6 Cross-sectional Analysis

### 6.1 Implementation of occupational health and safety management systems (OHSAS 18001) in firms, FASSP on the cost of debt

Extant literature has documented that the adoption of Occupational Health and Safety Assessment Series (*OHSAS 18001)*[17] enhances firms' commitment to workforce health and safety

[17] OHSAS 18001 is an internationally recognized standard for occupational health and safety, designed to help organizations reduce workplace hazards and risks. It focuses on identifying and managing workplace health and safety risks through a structured approach which includes hazard identification, legal compliance, and emergency preparedness to improve overall safety and reduce incidents. The system is currently under replacement with ISO 45001 which enhanced orientation towards occupational health and safety while incorporating (ISO 45001 – All you need to know, 2024). Environment, Health, and Safety (EHS) represents a collaborative effort between the Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA). EHS aims to enforce standards that promote environmental protection, health, wellness, and occupational safety. These standards share common elements with ISO health and safety standards and provide compliance certifications. Alternative terms for EHS include HSE, OHS, WHS, and QHSE, which are used in various states across the U.S. (IBM, 2024).

by establishing dedicated policies for operational controls with clear objective and targets (Yang et al., 2021). Firms complying with OHSAS 18001 encourage their suppliers to adhere to these standards, aiming to reduce transgressions originating from the suppliers, such as ethical issues or operational interruptions (Viswanathan et al., 2024). Consistent with this, we expect lenders to view firms with active implementation of OHSAS 18001 as less risky, leading to a stronger negative association between FASSP and the cost of debt.

Empirically, we classify our sample into two sub-groups and assign a dummy variable to indicate compliance with OHSAS 18001. Compliance with an internally designed health and safety management system or an Environment, Health & Safety (ESH[17]) System is treated as equivalent to OHSAS 180001 compliance. Firms that comply with either of these standards are assigned a dummy score of 1, and 0 otherwise. We then re-estimate regression specification (2) for each subsample and report the results in the columns (1-2) of Table 10.

**[Insert Table 10 here]**

The estimated coefficient of *FASSP* in column (2) is negative and significant at the 1% level. This indicates that the negative effect of *FASSP* on the cost of debt is stronger for firms complying with *OHSAS 18001*. Consistent with our expectations and the extant literature (Viswanathan et al., 2024), firms are considered less risky when they comply with OHSAS 18001. Our results confirm that creditors' concerns about the suppliers' weak social performance are alleviated following the compliance with OHSAS 18001 standard, likely due to an on-going mitigation of occupational health and safety risks.

### 6.2 Influence of CSR Committee on FASSP and the cost of debt

In this section, we examine the influence of firms' strategic choice to establish CSR committees on the relationship between FASSP and the cost of debt. Develay and James (2024) identify that the presence of a CSR committee fosters dedicated support for sustainability efforts and enhances CSR disclosure. Therefore, we expect firms with a CSR committee to exhibit greater public and institutional conformity, which may further subdue lenders' legitimacy concerns. To test this empirically, we divide our sample into two groups. We construct a dummy variable for the *CSR committee* and assign a binary value 1 (0) to indicate the presence (absence) of a CSR committee at the firm's board or executive level. We then re-estimate the baseline specification (2) and report the results in columns (3) and (4) of Table 10.

As illustrated in column (4) of Table 10, the estimated coefficient of *FASSP* for firms with a CSR committee is significant and negative at the 1% level. The results suggest that a dedicated CSR committee, responsible for reviewing business practices and assessing social needs, enables firms to continuously mitigate social risks, leading to more favorable loan pricing.

### 6.3 Capital structure, FASSP, and the cost of debt.

Existing literature documents that a higher proportion of equity in a firm capital structure is associated with stronger sustainability performance (Zhao and Zhang, 2024; Asimakopoulos et al., 2023). This is because shareholders are more aligned with firms' long-term sustainable growth and stakeholder value, whereas lenders' primary focus is on repayment capacity and financial resilience. In this section, we examine the influence of firms' capital structure choices on the baseline relationship between FASSP and the cost of debt.

Empirically, we divide our sample into two subsamples: *debt-dominated* firms and *equity-dominated* firms, based on the sample mean. We then re-estimate the regression and present the results in column (5) and (6) of Table 10. The estimated coefficient of *FASSP* for *equity-dominated* firms (column 6) is negative and significant at the 10%, indicating that creditors consider firms' attention to their suppliers' social performance in conjunction with their capital structure decisions. Lenders tend to offer a lower cost of debt to the firms with a greater equity share in their capital structure, as equity signals long-term stability and alignment with sustainable practices (Zhao and Zhang, 2024).

### 6.4 Firms' globalization status, FASSP, and the cost of debt

Multinational firms face a higher probability of encountering social problems in their supply chains due to exposure to countries with diverse institutional setups, increasing their systematic risk and raising banks' apprehensions (Valentino et al., 2022). The corporate diversification theory posits that multinational firms can secure favorable lending terms if they reduce their systematic risk (Hughes et al., 1975). To address these risks, global firms need to implement robust ESG policies to mitigate global supply chain risks associated with internationalization, and align with stakeholder expectations (Jiang et al., 2024). Consistent with this, we expect that multinational firms with higher FASSP can achieve greater social legitimacy, resulting in reduced lenders' concerns and favorable lending terms.

To test this empirically, we collect firm-level data of firms' multinational status (*MNC*) for our sample firms from Refinitiv, using international sales or assets as proxies for globalization.

We construct an interaction term between *FASSP* and *MNC*, where *MNC* is equal to 1 for global firms, and 0 otherwise. We report the results of regression specification in column (7) of Table 10. The estimated coefficient of the interaction term (*FASSP x MNC*) is negative and significant at the 10% level, indicating that multinational firms (*MNC*) with higher *FASSP* secure cheaper loans. This indicates that multinational firms engaging in socially responsible supplier practices experience greater reductions in borrowing costs compared to domestic firms.

### 6.5 Effect of FASSP on non-price contractual features

The outcome of borrowers' credit risk assessment by financial institutions is not only limited to price decisions; it also extends to non-price terms of the loan, including loan maturities, required collaterals, and the implementation of other performance covenants (Qian and Strahan, 2007). We also extend our baseline analysis beyond the price-based cost of debt (*Ln Spread*) and examine how firms' attention to suppliers' social performance affects the non-price lending decisions of banks. Following Chen et al. (2021), we run specific regression models for each non-price feature to test the association between FASSP and various proxies of non-price loan terms. The probit model (equation 4) is used to estimate the impact on binary non-price loan terms, such as *Loan Security*, *Loan Covenants,* and *Loan Performance*, while continuous variables, including *Ln Amount* and *Ln Maturity* are estimated using the OLS regression model (equation 5).

$$\begin{aligned} Probit\,(NP_{i,t} = 1\,|FASSP_{i,t-1}, \sum Firm\ covariates_{i,t-1}, \sum Loan\ covariates_{i,t}, \\ \sum Macroeconomic\ indicatiors_{i,t-1} \\ = \phi\,(\,\alpha + \beta_1 FASSP_{i,t-1} + \gamma_1 \sum Firm\ covariates_{i,t-1} \\ + \gamma_2 \sum Loan\ covariates_{i,t} + \gamma_1 \sum Macroeconomic\ indicatiors_{i,t-1} + Year_{i,t} \\ + Industry_{i,t} + \varepsilon_{i,t}) \end{aligned} \tag{4}$$

$$\begin{aligned} Y_{i,t} = \alpha + \beta_1 FASSP_{i,t-1} + \gamma_1 \sum Firm\ covariates_{i,t-1} + \gamma_2 \sum Loan\ covariates_{i,t} \\ + \gamma_1 \sum Macroeconomic\ indicatiors_{i,t-1} + Year_{i,t} + Industry_{i,t} + \varepsilon_{i,t} \end{aligned} \tag{5}$$

Where $NP_{i,t}$ in equation (4) represents the non-price dependent variable, which is either *Loan Security*, *Loan Covenants*, or *Loan Performance* for firm *i* in year *t* respectively. ϕ represents

the cumulative distribution function of the standard normal distribution. In equation (5), $Y_{i,t}$ represents the non-price dependent variable, which is either *Ln Amount* or *Ln Maturity*.

**[Insert Table 11 here]**

Table 11 reports the regression results of the effect of *FASSP* on non-price loan terms. The estimated coefficient for *FASSP* (column 3) is negatively and significantly associated with the *Loan Performance Dummy,* indicating that higher *FASSP* leads lenders to reduce the need for additional performance covenants. Additionally, the estimated coefficient for *FASSP* (column 4) is positively and significantly associated with loan size (*Ln Amount*), suggesting that higher *FASSP* enables firms to qualify for larger denomination loans.

## 7 Summary and Conclusion

In recent years, there has been growing attention to the substantial risk that supply chain social transgressions pose to customers and creditors, with significant relevance to the United States. With this backdrop, our study examines the impact of firms' attention to their suppliers' social performance influencing firms' credit risk, by taking on the perspective of banks' lending decisions, within the U.S. market. Drawing on extensively collected data covering firm-level loan contracts and supplier development practices from 2011 to 2023, our research provides compelling and robust evidence that firms' attention to suppliers' social performance exerts a significant negative influence on the cost of debt.

Through a competitive analysis of two theoretical approaches, we observe that firms implement supplier development practices under institutional influence to gain legitimacy and derive financial advantages from relational rents, which reduce the cost of debt. Improved legitimacy and financial resilience also enhance firms' reputation, which serves as a channel between FASSP and the cost of debt. We also find that this relationship is more pronounced when firms experience low financial distress or demonstrate stronger corporate governance. Cross-sectionally, our main results are particularly significant for firms with a CSR committee at the strategic level, global operations, or a higher proportion of equity in their capital structure. Additionally, we demonstrate that FASSP influences non-price loan terms, such as loan size and loan performance covenants.

Our study makes notable contributions to literature by shedding light on how institutional theory, in conjunction with economic motivation of relational rents, shape and motivate firms' attention to their suppliers' social performance and lower default risk. We provide firm-level

evidence that addressing suppliers' social performance negatively influences long-term financial risk and the cost of debt. Additionally, we develop a robust and valid instrument to measure firms' attention to their supplier's social performance.

Our research has important implications for regulators, financial institutions, and firms. We emphasize the need for firms to bolster their commitment to curbing social risks in their supply chains to reduce lenders' concerns about firms' stability and repayment capacity. Our findings suggest that regulators may consider incorporating the assessment of suppliers' social risk as an integral part of banking regulations. Given that increased attention enables firms to secure a lower cost of debt, longer maturities, and waiver of additional covenants, firms can view improvement in suppliers' social performance as a key opportunity to mitigate long-term financial risk, gain economic advantage, and lower default risk.

While our research provides valuable insights, it is not without limitations and offers avenues for future exploration. Our study focuses on the U.S. market, recognizing that the U.S. institutional backdrop is vital factor shaping firms' ESG policies and motivating them to address supply chain ethical problems. Future research could explore emerging markets, where firms operate in different regulatory environments and face unique challenges and supply chain constraints. In such diverse environments, different channels and moderators may impact on the relationship, which could be identified and empirically tested to further expand the body of research.

## Table 1: Sample selection and sample distribution

| Panel A- Sample selection | |
|---|---|
| Number of firms in S&P 1500 Index | 1500 |
| Less number of listed financial-sector firms (banks, saving & holding companies, brokerage & Insurance firms) | 207 |
| *Number of firms in S&P 1500 Index excluding financial firms* | *1293* |
| Less number of firms with headquarters outside United States | 50 |
| *Number of firms in S&P 1500 Index excluding financial firms and non-US firms* | *1243* |
| Less number of firms which loan information is not available | 342 |
| **Number of firms in the sample** | **901** |
| ***Final sample loan contracts for 2011 to 2023 for 901 sample firms*** | ***8,233*** |

Note(s): This table illustrates the sample selection from the S&P 1500 Index. We first exclude the financial firms (201 firms), which include commercial banks, savings and holding companies, insurance companies, and securities brokerage firms as their regulatory requirements differ from those of manufacturing and services firms. We further excluded non-US based firms (50 firms) from the sample to obtain symmetry in our analysis. Out of 1243 firms, after excluding financial firms and non-U.S. based firms, we obtained loan contract information for 901 unique firms using the LSEG/Refinitiv Dealscan platform. This data covers the period from 2011 to 2023, and we retrieved data for 8,233 unique loan contracts for our sample firms.

**Panel B: Sample distribution with respect to Global Industry Classification Standards**

| GICS code | Description | Freq. | Percentage |
|---|---|---|---|
| 20 | Industrials | 1,504 | 18.27 |
| 25 | Consumer Discretionary | 1,386 | 16.83 |
| 45 | Information Technology | 1,045 | 12.69 |
| 40 | Financials | 755 | 9.17 |
| 35 | Health Care | 740 | 8.99 |
| 30 | Consumer Staples | 612 | 7.43 |
| 55 | Utilities | 540 | 6.56 |
| 15 | Materials | 537 | 6.52 |
| 10 | Energy | 327 | 3.97 |
| 50 | Telecommunication Services | 84 | 1.02 |
| 00 | Unclassified | 703 | 8.54 |
| **Total** | | 8,233 | 100.00% |

Note(s): This table exhibits the frequency and percentage distribution of the S&P1500 sample across various industries, classified according to the GICS (Global Industry Classification Standard). Column (1) shows the GICS code, and column (3) shows the number of records from each industry. The sample comprises 8,233 unique loan contracts, including 703 contracts for which the GICS code is not available in Refinitiv/LSEG. *Under GICS code 40 (column 1), real estate companies are classified under the group "Financial" by MSCI and Standard & Poor's. Group 40 does not contain any commercial banks or financial institutions.

## Table 2: Summary statistics of variables

| | Mean | Max | Min | SD | Q25 | Median | Q75 |
|---|---|---|---|---|---|---|---|
| FASSP | 0.386 | 0.900 | 0.000 | 0.255 | 0.100 | 0.400 | 0.600 |
| Ln Spread | 4.984 | 7.170 | 2.303 | 0.459 | 4.723 | 4.942 | 5.215 |
| Ln Interest | 4.976 | 7.170 | 1.609 | 0.457 | 4.723 | 4.942 | 5.193 |
| All in Drawn Spread | 163.117 | 1300.000 | 10.000 | 89.229 | 112.500 | 140.000 | 184.000 |
| Loan Spread | 161.493 | 1300.000 | 5.000 | 86.926 | 112.500 | 140.000 | 180.000 |
| Months to Maturity | 50.585 | 243.600 | 0.000 | 21.038 | 38.040 | 60.000 | 60.120 |
| Ln Maturity | 3.796 | 5.496 | 0.365 | 0.601 | 3.664 | 4.094 | 4.096 |
| Ln Amount | 6.228 | 7.346 | 0.000 | 1.113 | 5.855 | 6.548 | 7.031 |
| Loan Performance Dummy | 0.300 | 1.000 | 0.000 | 0.458 | 0.000 | 0.000 | 1.000 |
| Loan Covenants Dummy | 0.385 | 1.000 | 0.000 | 0.487 | 0.000 | 0.000 | 1.000 |
| Loan Security | 0.739 | 1.000 | 0.000 | 0.439 | 0.000 | 1.000 | 1.000 |
| MVBV | 2.686 | 8.050 | -31.680 | 4.722 | 1.570 | 2.490 | 4.250 |
| Leverage | 32.772 | 202.400 | 0.000 | 19.170 | 20.160 | 31.740 | 43.860 |
| ROA | 6.711 | 85.090 | -52.970 | 7.141 | 3.440 | 5.990 | 9.520 |
| Ln Capex | 12.220 | 17.349 | 2.197 | 1.900 | 10.908 | 12.179 | 13.532 |
| Total Assets* | 25000.000 | 685000.000 | 82.821 | 51100.000 | 2590.868 | 6942.000 | 22300.000 |
| Ln Assets | 15.875 | 20.345 | 11.324 | 1.520 | 14.767 | 15.753 | 16.919 |
| Credit Spread | 0.540 | 1.250 | -1.090 | 0.803 | 0.680 | 0.900 | 0.970 |
| Term Spread | 0.921 | 2.340 | -0.620 | 0.854 | 0.170 | 1.000 | 1.520 |
| Ethical Training Initiative (ETI) | 0.001 | 1.000 | 0.000 | 0.032 | 0.000 | 0.000 | 0.000 |
| UN Global Compact (UNGC) | 0.130 | 1.000 | 0.000 | 0.336 | 0.000 | 0.000 | 0.000 |
| Firm Reputation | 0.496 | 1.000 | 0.000 | 0.500 | 0.000 | 0.000 | 1.000 |
| Corporate Governance | 57.726 | 99.040 | 0.610 | 20.798 | 42.550 | 59.850 | 74.020 |
| Board Affiliations | 0.828 | 5.780 | 0.000 | 0.464 | 0.500 | 0.780 | 1.100 |
| Board Independence | 82.714 | 100.000 | 0.000 | 10.243 | 77.780 | 85.710 | 90.000 |
| Board Duality | 0.643 | 1.000 | 0.000 | 0.479 | 0.000 | 1.000 | 1.000 |
| Ln Property, Plant & Equipment | 14.166 | 19.375 | 5.908 | 2.015 | 12.809 | 14.098 | 15.592 |
| Profitability | 2639.567 | 103000.000 | -12200.000 | 6125.973 | 230.029 | 653.392 | 2279.000 |
| Sales Growth | 18.082 | 7001.280 | -80.190 | 140.412 | 1.130 | 7.290 | 17.200 |
| Tangibility | 0.585 | 1.593 | -0.468 | 0.157 | 0.490 | 0.572 | 0.674 |
| Current Ration | 1.902 | 38.450 | 0.060 | 1.790 | 1.030 | 1.510 | 2.240 |
| Firm Age | 25.506 | 32.000 | 2.000 | 7.378 | 22.000 | 27.000 | 32.000 |
| FASSP Direct | 0.143 | 0.990 | 0.000 | 0.249 | 0.000 | 0.010 | 0.330 |
| FASSP Indirect | 0.480 | 0.980 | 0.000 | 0.290 | 0.140 | 0.560 | 0.700 |
| FASSP Adjusted | 0.379 | 0.900 | -0.560 | 0.257 | 0.100 | 0.400 | 0.600 |
| CDS | 11.697 | 1120.589 | 0.000 | 43.754 | 0.153 | 1.250 | 7.261 |
| Z-Score | 1.654 | 10.056 | -56.730 | 1.518 | 0.822 | 1.561 | 2.366 |
| Beta | 1.238 | 14.884 | -12.726 | 0.744 | 0.820 | 1.167 | 1.584 |

Note(s): This table presents the summary statistics for variables used in the baseline regression, robustness analysis, and channel analysis. The statistics are based on a sample of 8,233 unique bank loans issued to the U.S. firms listed on the S&P 1500 index between 2011 and 2023. Lagged values have been used for all explanatory variables and covariates.

*Total assets and profitability are reported in thousand. Variable definitions are provided in Appendix A.

**Table 3: Correlation matrix of key variables**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ln Spread (1) | 1 | | | | | | | | | | | | | |
| FASSP (2) | -0.222 | 1.000 | | | | | | | | | | | | |
| | 0.000 | | | | | | | | | | | | | |
| ROA (3) | -0.184 | 0.071 | 1.000 | | | | | | | | | | | |
| | 0.000 | 0.000 | | | | | | | | | | | | |
| Leverage (4) | 0.125 | -0.052 | -0.079 | 1.000 | | | | | | | | | | |
| | 0.000 | 0.000 | 0.000 | | | | | | | | | | | |
| MVBV (5) | -0.097 | 0.010 | 0.052 | -0.167 | 1.000 | | | | | | | | | |
| | 0.000 | 0.430 | 0.000 | 0.000 | | | | | | | | | | |
| Ln Assets (6) | -0.388 | 0.333 | -0.040 | 0.149 | 0.019 | 1.000 | | | | | | | | |
| | 0.000 | 0.000 | 0.000 | 0.000 | 0.091 | | | | | | | | | |
| Ln Capex (7) | -0.368 | 0.272 | -0.076 | 0.196 | 0.018 | 0.842 | 1.000 | | | | | | | |
| | 0.000 | 0.000 | 0.000 | 0.000 | 0.111 | 0.000 | | | | | | | | |
| Ln Maturity (8) | 0.207 | -0.147 | -0.012 | 0.010 | -0.013 | -0.308 | -0.248 | 1.000 | | | | | | |
| | 0.000 | 0.000 | 0.272 | 0.386 | 0.242 | 0.000 | 0.000 | | | | | | | |
| Ln Amount (9) | -0.009 | 0.028 | 0.008 | 0.026 | -0.013 | 0.069 | 0.050 | 0.021 | 1.000 | | | | | |
| | 0.439 | 0.025 | 0.461 | 0.018 | 0.257 | 0.000 | 0.000 | 0.061 | | | | | | |
| Loan Covenants Dummy (10) | -0.085 | -0.025 | 0.001 | -0.018 | 0.048 | -0.080 | -0.070 | 0.077 | 0.007 | 1.000 | | | | |
| | 0.000 | 0.041 | 0.920 | 0.114 | 0.000 | 0.000 | 0.000 | 0.000 | 0.523 | | | | | |
| Loan Performance Dummy (11) | -0.040 | -0.144 | -0.015 | -0.011 | 0.047 | -0.115 | -0.084 | 0.069 | 0.002 | 0.827 | 1.000 | | | |
| | 0.001 | 0.000 | 0.173 | 0.330 | 0.000 | 0.000 | 0.000 | 0.000 | 0.894 | 0.000 | | | | |
| Loan Security (12) | 0.205 | -0.249 | -0.064 | 0.019 | -0.021 | -0.302 | -0.216 | 0.471 | -0.002 | -0.003 | 0.224 | 1.000 | | |
| | 0.000 | 0.000 | 0.000 | 0.082 | 0.063 | 0.000 | 0.000 | 0.000 | 0.879 | 0.802 | 0.000 | | | |
| Term Spread (13) | 0.129 | -0.303 | -0.042 | -0.041 | -0.010 | -0.156 | -0.090 | 0.124 | 0.009 | -0.149 | 0.101 | 0.433 | 1.000 | |
| | 0.000 | 0.000 | 0.000 | 0.000 | 0.399 | 0.000 | 0.000 | 0.000 | 0.420 | 0.000 | 0.000 | 0.000 | | |
| Credit Spread (14) | 0.107 | -0.296 | -0.052 | 0.013 | 0.014 | -0.096 | -0.033 | 0.024 | -0.006 | -0.057 | 0.323 | 0.554 | 0.679 | 1.000 |
| | 0.000 | 0.000 | 0.000 | 0.265 | 0.239 | 0.000 | 0.004 | 0.034 | 0.596 | 0.000 | 0.000 | 0.000 | 0.000 | |

Note(s): This table presents the Pearson pairwise correlation among explanatory variables, covariates, and dependent variables. The correlation coefficients are provided with p-values reflecting the significance below each coefficient

**Table 4: OLS regression, and instrumental variable regression results for FASSP and the cost of debt**

| Dependent Variable: Cost of debt | *Baseline Regression* | | | *2SLS- Instrumental Variable* | |
|---|---|---|---|---|---|
| | Ln Spread | | | First Stage | 2SLS Second Stage |
| | (1) | (2) | (3) | (4) | (5) |
| FASSP | -0.441*** | -0.118** | -0.120*** | | -0.354* |
| | (-7.716) | (-2.472) | (-2.614) | | (1.821) |
| ETI | | | | 0.265*** | |
| | | | | (10.251) | |
| UNGC | | | | 0.168*** | |
| | | | | (9.141) | |
| ROA | | -0.013*** | -0.013*** | 0.002*** | -0.354* |
| | | (-7.857) | (-7.929) | (2.594) | (1.821) |
| Leverage | | 0.004*** | 0.004*** | -0.001*** | -0.012*** |
| | | (6.366) | (6.260) | (2.591) | (7.132) |
| MVBV | | -0.004* | -0.003* | -0.001 | 0.004*** |
| | | (-1.781) | (-1.683) | (0.711) | 5.413 |
| Ln Assets | | -0.076*** | -0.070*** | 0.037*** | -0.004** |
| | | (-4.431) | (-4.308) | (4.613) | (2.164) |
| Ln CAPEX | | -0.042*** | -0.044*** | 0.0179*** | -0.058*** |
| | | (-2.971) | (-3.097) | (2.942) | (3.059) |
| Ln Maturity | | | 0.048*** | -0.088 | -0.039*** |
| | | | (2.999) | (1.082) | (2.644) |
| Ln Amount | | | 0.005 | 0.004* | 0.058*** |
| | | | (0.806) | (1.759) | (3.461) |
| Loan Covenants Dummy | | | -0.046 | 0.008 | 0.0065 |
| | | | (-1.424) | (0.394) | 1.101 |
| Loan Performance Dummy | | | -0.012 | -0.011 | -0.013 |
| | | | (-0.347) | (0.871) | (0.363) |
| Loan Security | | | 0.033 | 0.0251* | -0.043 |
| | | | (1.251) | (1.934) | (1.082) |
| Term Spread | | | -0.205*** | 0.158*** | -0.002 |
| | | | (-4.670) | (3.158) | (0.091) |
| Credit Spread | | | 0.189*** | -0.243*** | -0.120 |
| | | | (4.334) | (6.375) | (1.196) |
| Constant | 5.227*** | 6.822*** | 6.559*** | -0.571*** | 0.113 |
| | (83.416) | (38.033) | (38.183) | (5.691) | 1.295 |
| Observations | 5880 | 5744 | 5705 | 5,242 | 6.300*** |
| $R^2$ | 0.116 | 0.281 | 0.295 | 0.293 | 24.992 |
| *Control for* | | | | | 5,242 |
| Industry FE | Yes | Yes | Yes | Yes | 0.282 |
| Year FE | Yes | Yes | Yes | Yes | |
| F-test (instrument) | | | | 17.89 | Yes |
| First-stage F-test (p-value) | | | | 0.000 | Yes |
| Kleibergen-Paap LM statistic | | | | | 41.911*** |
| Kleibergen-Paap Wald F Statistics | | | | | 170.67*** |
| Hansen J-statistic | | | | | 0.937 |
| Hansen J-statistic (p-value) | | | | | 0.332 |

*t*-statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note(s): Table 4 presents the ordinary least squares (OLS) regression results examining the impact of firms' attention to supplier social performance (*FASSP*) on the cost of debt (*Ln Spread*) and tests the robustness of relationship using an instrumental variable approach. Column (1) represents the outcome of baseline regression specification (2) without any control variables, including only *Ln Spread* and *FASSP*. In column (2), we control the baseline regression specification (2) for only firm-related control variables. In column (3), the regression includes *Ln Spread* and *FASSP* along with all control variables (firm-level, loan-level and macroeconomic characteristics). Columns (4-5) report the first and second stage regression results using the two-stage instrumental variable regression approach. The instrumental variables used are *ETI* and *UNGC*. Definitions of variables are provided in Appendix A. The results include industry and year-fixed effects, with standard errors clustered by CUSIP at the firm level. t-statistics are reported in parentheses beneath the coefficients. Significance levels are indicated by *, **, and *** for the 10%, 5%, and 1% significance levels, respectively

## Table 5: Propensity Score Matching Analysis

| Panel A: First-stage probit regression results | | | |
|---|---|---|---|
| | Coefficient | z-stat | p-value |
| | (1) | (2) | (3) |
| ROA | 0.008 | 3.360 | 0.001 |
| Leverage | -0.008 | -7.831 | 0.000 |
| MVBV | -0.008 | -2.001 | 0.045 |
| Ln Assets | 0.265 | 10.402 | 0.000 |
| Ln CAPEX | 0.098 | 4.216 | 0.000 |
| Ln Maturity | 0.003 | 0.097 | 0.927 |
| Ln Amount | 0.041 | 2.355 | 0.019 |
| Loan Covenants Dummy | 0.179 | 2.112 | 0.035 |
| Loan Performance Dummy | -0.277 | -2.894 | 0.004 |
| Loan Security | 0.086 | 1.412 | 0.159 |
| Term Spread | -0.071 | -0.434 | 0.669 |
| Credit Spread | -0.698 | -4.870 | 0.000 |
| Constant | -5.495 | -15.615 | 0.000 |
| Observations | | 5705 | |
| $R^2$ | | 0.245 | |
| Log likelihood | | -2980.494 | |
| *Control for* | | | |
| Industry FE | | Yes | |
| Year FE | | Yes | |

Notes: Table 5 (Panel A) exhibits regression estimates of the impact of the treatment variable *FASSB dummy* on the outcome variable *Ln Spread*, adjusting for covariates through propensity score matching. The analysis applies a caliper of 0.01 using a probit model to ensure close matches between treated and control groups. Matching is restricted to common support and excludes replacement to improve comparability and reduce bias in the estimation. Definitions of variables are provided in Appendix A. The results include industry and year-fixed effects, with standard errors clustered by CUSIP at the firm level.

| Panel B: Mean test between treatment and control groups | | | |
|---|---|---|---|
| | High FASSP | Low FASSP | t-test |
| | (treatment) | (control) | (p-value) |
| ROA | 6.754 | 6.690 | 0.813 |
| Leverage | 31.863 | 32.083 | 0.746 |
| MVBV | 2.718 | 2.840 | 0.460 |
| Ln Assets | 15.790 | 15.783 | 0.874 |
| Ln CAPEX | 12.274 | 12.239 | 0.571 |
| Ln Maturity | 3.827 | 3.820 | 0.747 |
| Ln Amount | 6.255 | 6.221 | 0.390 |
| Loan Covenants Dummy | 0.454 | 0.445 | 0.634 |
| Loan Performance Dummy | 0.354 | 0.356 | 0.909 |
| Loan Security | 0.754 | 0.764 | 0.523 |
| Term Spread | 0.714 | 0.722 | 0.748 |
| Credit Spread | 0.554 | 0.590 | 0.198 |

Notes: Table 5 (Panel B) presents the results of a mean comparison between the treatment group (*High FASSP*) and the control group (*Low FASSP*). The table shows the average values for all control variables (firm-level, loan-level and macro-economic indicators), with the corresponding p-values for the tests. Definitions of variables are provided in Appendix A

| **Panel C: Second-stage regression results of association between FASSP and the cost of debt** | |
|---|---|
| Dependent variable: cost of debt | *Ln Spread* |
| | (1) |
| FASSP | -0.120** |
| | (-2.511) |
| ROA | -0.001*** |
| | (-5.420) |
| Leverage | 0.004*** |
| | (4.914) |
| MVBV | -0.004* |
| | (-1.853) |
| Ln Assets | -0.077*** |
| | (-4.726) |
| Ln CAPEX | -0.039*** |
| | (-2.786) |
| Ln Maturity | 0.054*** |
| | (2.820) |
| Ln Amount | 0.00542 |
| | (0.821) |
| Loan Covenants Dummy | -0.087** |
| | (-2.266) |
| Loan Performance Dummy | 0.028 |
| | (0.675) |
| Loan Security | 0.016 |
| | (0.546) |
| Term Spread | -0.225*** |
| | (-3.517) |
| Credit Spread | 0.201*** |
| | (3.304) |
| Constant | 6.610*** |
| | (35.63) |
| Observations | 3,014 |
| $R^2$ | 0.245 |
| *Control for* | |
| Industry FE | Yes |
| Year FE | Yes |

*t*-statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
Notes: Table 5 (Panel C) reports the regression model estimated on propensity score-matched samples. The dependent variable is *Ln Spread,* and the independent variable is *FASSP.* Definitions of variables are provided in Appendix A. The results include industry and year-fixed effects, with standard errors clustered by CUSIP at the firm level. Significance levels are indicated by *, **, and *** for the 10%, 5%, and 1% significance levels, respectively

**Table 6: Robustness check using alternative measure for FASSP, the cost of debt, and additional control variables**

| | *Ln Spread* | | | | *Ln Interest* |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| FASSP Indirect | -0.090** | | | | |
| | (-2.469) | | | | |
| FASSP Direct | | -0.063*** | | | |
| | | (-2.895) | | | |
| FASSP Adjusted | | | -0.127*** | | |
| | | | (-2.864) | | |
| FASSP | | | | -0.102** | -0.128*** |
| | | | | (-2.140) | (-5.232) |
| ROA | -0.013*** | -0.013*** | -0.013*** | -0.011*** | -0.013*** |
| | (-7.804) | (-18.385) | (-7.935) | (-6.500) | (-18.366) |
| Leverage | 0.005*** | 0.005*** | 0.004*** | 0.004*** | 0.004*** |
| | (6.497) | (16.482) | (6.287) | (6.058) | (14.942) |
| MVBV | -0.004** | -0.004*** | -0.003* | -0.004* | -0.003*** |
| | (-2.109) | (-3.430) | (-1.674) | (-1.906) | (-3.362) |
| Ln Assets | -0.072*** | -0.074*** | -0.070*** | -0.054*** | -0.065*** |
| | (-4.548) | (-11.185) | (-4.354) | (-3.257) | (-9.747) |
| Ln CAPEX | -0.043*** | -0.044*** | -0.044*** | -0.037** | -0.048*** |
| | (-3.092) | (-8.092) | (-3.102) | (-2.089) | (-8.868) |
| Ln Maturity | 0.065*** | 0.067*** | 0.048*** | 0.050*** | 0.038*** |
| | (3.947) | (6.228) | (2.986) | (3.264) | (3.726) |
| Ln Amount | 0.005 | 0.005 | 0.005 | -0.000 | 0.005 |
| | (0.812) | (1.050) | (0.827) | (-0.031) | (1.162) |
| Loan Covenants Dummy | -0.027 | -0.028 | -0.046 | -0.048 | -0.054** |
| | (-0.727) | (-1.082) | (-1.422) | (-1.435) | (-2.559) |
| Loan Performance Dummy | -0.026 | -0.024 | -0.013 | -0.001 | 0.007 |
| | (-0.670) | (-0.847) | (-0.355) | (-0.040) | (0.284) |
| Loan Security | -0.019 | -0.021 | 0.033 | 0.029 | 0.042*** |
| | (-0.726) | (-1.265) | (1.262) | (1.086) | (2.578) |
| Term Spread | -0.206** | -0.217*** | -0.208*** | -0.158*** | -0.206*** |
| | (-2.212) | (-2.857) | (-4.776) | (-3.405) | (-5.028) |
| Credit Spread | 0.209*** | 0.231*** | 0.191*** | 0.147*** | 0.175*** |
| | (2.918) | (4.049) | (4.384) | (3.109) | (4.929) |
| Ln Property, Plant & Equipment | | | | 0.020 | |
| | | | | (1.130) | |
| Net Profitability | | | | -0.000*** | |
| | | | | (-2.911) | |
| Sales Growth | | | | 0.000*** | |
| | | | | (4.299) | |
| Tangibility | | | | -0.031 | |
| | | | | (-0.248) | |
| Current Ratio | | | | 0.008* | |
| | | | | (1.695) | |
| Firm Age | | | | -0.007*** | |
| | | | | (-3.127) | |
| Volatility | | | | 0.019*** | |
| | | | | (3.781) | |
| Constant | 6.531*** | 6.535*** | 6.564*** | 5.964*** | 6.555*** |
| | (36.760) | (65.994) | (38.402) | (23.674) | (73.286) |
| Observations | 5485 | 5459 | 5705 | 5120 | 5612 |
| $R^2$ | 0.297 | 0.296 | 0.296 | 0.340 | 0.296 |
| Control for | | | | | |
| Industry FE | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes |

*t*-statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Notes: This table presents the ordinary least squares (OLS) regression results for examining the effect of firms' attention to suppliers'

social performance on the cost of debt using different proxies and additional control variables. Columns (1 & 2) present the regression results, demonstrating the impact of *FASSP* with indirect and direct parameters to measure firms' attention to supplier social performance on the cost of debt (*Ln Spread*). Column (3) exhibits the result for *FASSP Adjusted* adjusting *FASSP* for negative incidents (strikes, contractors' fatalities, and contractor deaths). In column (4), the OLS estimates incorporate additional control variables and report the relationship between *Ln Spread* and *FASSP.* In column (5), we adopt the interest rate spread (*Ln interest rate*) as an alternative proxy for the cost of debt and substitute *Ln Spread* with *Ln interest rate* in baseline equation (2). In columns (1-5), the regression includes all control variables (firm-level, loan-level and macroeconomic characteristics). The results include industry and year-fixed effects, with standard errors clustered by CUSIP at the firm level. t-statistics are reported in parentheses beneath the coefficients. Significance levels are indicated by *, **, and *** for the 10%, 5%, and 1% significance levels, respectively.

## Table 7: Firm reputation as mediating mechanism between FASSP and cost of debt

| **Panel A: Mediation effect of firm reputation of FASSP and the cost of debt** | | |
|---|---|---|
| Dependent variable (Cost of debt) | *Firm reputation = 0* | *Firm reputation = 1* |
| | (1) | (2) |
| FASSP | -0.107* | -0.141** |
| | (-1.674) | (-2.137) |
| ROA | -0.010*** | -0.015*** |
| | (-4.942) | (-5.604) |
| Leverage | 0.004*** | 0.006*** |
| | (5.088) | (5.214) |
| MVBV | -0.004 | -0.004 |
| | (-1.553) | (-1.283) |
| Ln Assets | -0.046*** | -0.105*** |
| | (-3.145) | (-4.235) |
| Ln CAPEX | -0.052*** | -0.014 |
| | (-3.868) | (-0.596) |
| Ln Maturity | 0.018 | 0.079*** |
| | (0.771) | (3.838) |
| Ln Amount | 0.005 | 0.001 |
| | (0.838) | (0.073) |
| Loan Covenants Dummy | -0.015 | -0.002 |
| | (-0.311) | (-0.045) |
| Loan Performance Dummy | -0.074 | -0.016 |
| | (-1.457) | (-0.290) |
| Loan Security | -0.055 | 0.023 |
| | (-1.428) | (0.665) |
| Term Spread | -0.154 | -0.143 |
| | (-0.902) | (-1.241) |
| Credit Spread | 0.167 | 0.162* |
| | (1.288) | (1.803) |
| Constant | 6.389*** | 6.555*** |
| | (28.554) | (21.960) |
| Observations | 2634 | 2616 |
| $R^2$ | 0.248 | 0.303 |
| *Control for* | 0.239 | 0.294 |
| Industry FE | Yes | Yes |
| Year FE | Yes | Yes |
| Difference in coefficients | | 4.57*** |
| *p*-value of $X^2$ | | P<0.05 |
| Critical value (α=0.05) | | 3.86 |

*t*-statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Panel A of Table 7 presents the results of the mediation analysis using a subsample approach, examining the role firms' reputation as a channel between *FASSP* and the cost of debt (*Ln Spread*). The results include industry and year-fixed effects, with standard errors clustered by CUSIP at the firm level. t-statistics are reported in parentheses beneath the coefficients. Significance levels are indicated by *, **, and *** for the 10%, 5%, and 1% significance levels, respectively.

| Panel B: Mediation regression results between FASSP, firms' reputation and the cost of debt | | |
|---|---|---|
| | *Ln Spread* | *Firm reputation* |
| | (1) | (2) |
| FASSP | -0.120*** | 0.278*** |
| | (-4.765) | (9.738) |
| Firm reputation | -0.038*** | |
| | (-3.193) | |
| ROA | -0.013*** | 0.004*** |
| | (-17.511) | (5.787) |
| Leverage | 0.004*** | 0.001 |
| | (15.071) | (0.009) |
| MVBV | -0.004*** | -0.001 |
| | (-3.856) | (-1.016) |
| Ln Assets | -0.066*** | 0.082*** |
| | (-9.574) | (10.341) |
| Ln CAPEX | -0.040*** | 0.057*** |
| | (-7.200) | (8.897) |
| Ln Maturity | 0.059*** | -0.017 |
| | (5.517) | (-1.400) |
| Ln Amount | 0.005 | 0.001 |
| | (1.067) | (0.245) |
| Loan Covenants Dummy | -0.012 | 0.121*** |
| | (-0.495) | (4.046) |
| Loan Performance Dummy | -0.043 | -0.110*** |
| | (-1.519) | (-3.361) |
| Loan Security | -0.007 | 0.030 |
| | (-0.425) | (1.525) |
| Term Spread | -0.160** | -0.140 |
| | (-2.142) | (-1.630) |
| Credit Spread | 0.172*** | 0.093 |
| | (3.045) | (1.438) |
| Constant | 6.409*** | -1.477*** |
| | (62.331) | (-12.702) |
| Observations | 5,250 | 5,250 |
| $R^2$ | 0.294 | 0.286 |
| *Control for* | | |
| Industry FE | Yes | Yes |
| Year FE | Yes | Yes |

*t*-statistics in parentheses
$^{*}$ $p < 0.10$, $^{**}$ $p < 0.05$, $^{***}$ $p < 0.01$
Panel B of Table 7 shows the results of the path analysis examining the effects of firms' attention to suppliers' social performance (*FASSP*) on loan spread (*Ln Spread*) through mediating role of *firm reputation*. The independent variable is *FASSP*, the dependent variable is *Ln Spread*, and the channel variable is *firm reputation*. The results include industry and year-fixed effects, with standard errors clustered by CUSIP at the firm level. t-statistics are reported in parentheses beneath the coefficients. Significance levels are indicated by *, **, and *** for the 10%, 5%, and 1% significance levels, respectively

| Panel C: Mediation effect of firm reputation between FASSP and cost of debt | |
|---|---|
| Indirect effect using non-linear combination of estimator's test | -0.010*** |
| z-statistics for indirect effect | -3.032 |
| Direct effect of FASSP on Ln Spread from Eq. (2) | -0.120*** |
| Total effect | -0.130** |
| % of the total mediated effect | 7.35 % |

t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Panel C of Table 7 presents the overall mediation analysis, examining both the direct effects of FASSP on the cost of debt and indirect effects via firm reputation. The results include industry and year-fixed effects, with standard errors clustered by CUSIP at the firm level. t-statistics are reported in parentheses beneath the coefficients. Significance levels are indicated by *, **, and *** for the 10%, 5%, and 1% significance levels, respectively.

## Table 8:Financial distress as moderator between FASSP and cost of debt

| Dependent variable: cost of debt (*Ln Spread*) | Default risk | | | | | |
|---|---|---|---|---|---|---|
| | High | Low | High | Low | High | Low |
| | *Low Z-Score* | *High Z-Score* | *High CDS* | *Low CDS* | *High Beta* | *Low Beta* |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| FASSP | -0.040 | -0.214*** | -0.073 | -0.176*** | -0.107* | -0.177*** |
| | (-0.644) | (-3.876) | (-0.662) | (-3.218) | (-1.836) | (-3.058) |
| ROA | -0.010*** | -0.010*** | -0.004 | -0.011*** | -0.009*** | -0.013*** |
| | (-5.473) | (-3.914) | (-1.270) | (-4.633) | (-4.095) | (-6.560) |
| Leverage | 0.004*** | 0.003*** | 0.004*** | 0.004*** | 0.005*** | 0.004*** |
| | (4.304) | (2.586) | (3.239) | (3.784) | (5.864) | (5.179) |
| MVBV | -0.005** | -0.003 | 0.001 | -0.007*** | -0.005 | -0.004 |
| | (-2.323) | (-0.996) | (0.284) | (-3.118) | (-1.156) | (-1.543) |
| Ln Assets | -0.082*** | -0.115*** | -0.085** | -0.073*** | -0.089*** | -0.045** |
| | (-4.292) | (-5.068) | (-2.474) | (-3.370) | (-4.842) | (-2.424) |
| Ln CAPEX | -0.031* | -0.029 | -0.006 | -0.047** | -0.004 | -0.078*** |
| | (-1.790) | (-1.532) | (-0.215) | (-2.449) | (-0.229) | (-4.802) |
| Ln Maturity | 0.060*** | 0.028 | 0.025 | 0.080*** | 0.035 | 0.047** |
| | (3.096) | (1.209) | (0.568) | (4.176) | (1.448) | (2.376) |
| Ln Amount | 0.005 | 0.007 | 0.020 | 0.016** | 0.008 | 0.004 |
| | (0.639) | (0.781) | (1.416) | (2.158) | (1.012) | (0.502) |
| Loan Covenants Dummy | -0.134*** | 0.119** | 0.157* | 0.070 | -0.139*** | 0.021 |
| | (-3.239) | (2.392) | (1.954) | (1.481) | (-3.549) | (0.474) |
| Loan Performance Dummy | 0.062 | -0.140** | -0.207** | -0.105** | 0.054 | -0.036 |
| | (1.406) | (-2.578) | (-2.238) | (-2.097) | (1.140) | (-0.789) |
| Loan Security | -0.008 | 0.060** | -0.064 | -0.042 | 0.021 | 0.005 |
| | (-0.227) | (1.965) | (-1.020) | (-1.461) | (0.637) | (0.144) |
| Term Spread | -0.200*** | -0.123** | -99.883 | -95.049*** | -0.259*** | -0.177*** |
| | (-3.345) | (-1.969) | (-1.334) | (-2.607) | (-3.581) | (-3.068) |
| Credit Spread | 0.239*** | 0.079 | 68.931 | 65.562*** | 0.195*** | 0.192*** |
| | (4.031) | (1.287) | (1.335) | (2.609) | (2.870) | (3.274) |
| Constant | 6.634*** | 7.058*** | 71.914 | 68.882*** | 6.494*** | 6.523*** |
| | (30.211) | (30.399) | (1.458) | (2.866) | (27.331) | (33.699) |
| *Observations* | 2933 | 2391 | 625 | 2589 | 2593 | 3112 |
| $R^2$ | 0.310 | 0.349 | 0.303 | 0.330 | 0.236 | 0.330 |
| *Control for* | | | | | | |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Difference in coefficients | | | | | | 9.35*** |
| *p*-value of $X^2$ | | | | | | P<0.001 |

*t*-statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note(s): This table reports the regression outcomes of a sub-sample analysis examining the effect of firms' default risk using *Z-Score* (in columns 1 & 2) and Credit Default Swaps (*CDS*) (in columns 3 & 4), and firms' *beta* (in columns 5 & 6) with higher social attention to suppliers' social performance on the cost of debt. We divide the sample into two subsamples using the mean value of default risk parameters (*Z-Score, CDS, and Beta*). For the *Z-Score*, the sample where the value is greater than the mean is classified as non-risky firms. In the case of *CDS* and *Beta*, the sample where the value is lower than the mean is classified as non-risky firms. The dependent variable is *Ln Spread*, and the key explanatory variable is *FASSP*. Columns (1-6) incorporate all control variables, including firm, loan, and macroeconomic characteristics. Definitions of variables are provided in Appendix A. The results include industry and year-fixed effects, with standard errors clustered by CUSIP at the firm level. t-statistics are reported in parentheses beneath the coefficients. Significance levels are indicated by *, **, and *** for the 10%, 5%, and 1% significance levels, respectively.

## Table 9: Corporate Governance as moderator between FASSP and the cost of debt

| Dependent variable: cost of debt (*Ln Spread)* | Corporate Governance | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | *Corporate Governance* | | *Board Affiliations* | | *Board Independence* | | *Board Duality* | |
| | Low | High | Low | High | Low | High | Yes | No |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| FASSP | -0.086 | -0.188*** | -0.091 | -0.153** | -0.063 | -0.160*** | -0.095 | -0.138** |
| | (-1.321) | (-3.262) | (-1.564) | (-2.408) | (-0.898) | (-2.758) | (-1.405) | (-2.514) |
| Constant | 6.390*** | 6.531*** | 6.374*** | 6.534*** | 6.089*** | 6.647*** | 6.642*** | 6.361*** |
| | (27.493) | (26.373) | (30.388) | (23.004) | (18.552) | (30.479) | (23.388) | (30.145) |
| Observations | 2389 | 2870 | 2885 | 2374 | 1924 | 3335 | 2018 | 3241 |
| $R^2$ | 0.275 | 0.315 | 0.291 | 0.299 | 0.283 | 0.328 | 0.297 | 0.306 |
| *Control for* | | | | | | | | |
| Loan Characteristics | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm Characteristics | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Macroeconomic Indicators | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

*t*-statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note(s): This table examines the moderating effect of firms' corporate governance, using *Corporate Governance, Board Affiliations, Board Independence, and Board Duality*, on the relationship between higher attention to suppliers' social performance and the cost of debt. We divide the sample into high and low subsamples based on the mean values of the sample. We report the coefficient of *FASSP* in columns (1-2) for *Firm Governance*, columns (3-4) for *Board Affiliations*, columns (5-6) for *Board Independence*, and columns (7-8) for *Board Duality*. The dependent variable is *Ln Spread*, and the key explanatory variable is *FASSP*. Columns (1-8) incorporate all control variables, including firm, loan, and macroeconomic characteristics. Definitions of variables are provided in Appendix A. The results include industry and year-fixed effects, with standard errors clustered by CUSIP at the firm level. t-statistics are reported in parentheses beneath the coefficients. Significance levels are indicated by *, **, and *** for the 10%, 5%, and 1% significance levels, respectively

## Table 10: Cross-sectional analysis of the relationship between FASSP and the cost of debt

| Dependent variable: cost of debt (*Ln Spread)* | Firm compliance with *OHSAS 18001* standards | | Presence of *CSR committees* in board | | Capital structure | | Firms' globalization status |
|---|---|---|---|---|---|---|---|
| | No | Yes | No | Yes | Debt-dominated | Equity-dominated | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| FASSP | -0.058 | -0.243*** | -0.073 | -0.176*** | -0.104 | -0.086* | -0.097** |
| | (-1.012) | (-3.335) | (-0.995) | (-2.888) | (-1.521) | (-1.954) | (-2.117) |
| MNC | | | | | | | 0.062* |
| | | | | | | | (1.791) |
| FASSP x MNC | | | | | | | -0.130* |
| | | | | | | | (-1.755) |
| ROA | -0.012*** | -0.015*** | -0.012*** | -0.014*** | -0.015*** | -0.002 | -0.013*** |
| | (-6.222) | (-5.288) | (-5.801) | (-6.058) | (-6.277) | (-1.403) | (-7.949) |
| Leverage | 0.005*** | 0.003** | 0.005*** | 0.004*** | 0.003*** | 0.003*** | 0.004*** |
| | (7.614) | (2.559) | (6.904) | (3.756) | (3.260) | (2.778) | (6.250) |
| MVBV | -0.002 | -0.006 | -0.002 | -0.005** | -0.000 | -0.064*** | -0.003* |
| | (-1.218) | (-1.603) | (-0.761) | (-2.142) | (-0.166) | (-9.805) | (-1.685) |
| Ln Assets | -0.046*** | -0.116*** | -0.073*** | -0.066*** | -0.066*** | -0.096*** | -0.070*** |
| | (-2.848) | (-4.366) | (-4.293) | (-2.895) | (-3.093) | (-5.244) | (-4.338) |
| Ln CAPEX | -0.065*** | -0.002 | -0.050*** | -0.037* | -0.052*** | -0.032** | -0.044*** |
| | (-5.041) | (-0.101) | (-3.293) | (-1.790) | (-3.084) | (-2.033) | (-3.096) |
| Ln Maturity | 0.035 | 0.077*** | 0.025 | 0.065*** | 0.076*** | 0.008 | 0.048*** |
| | (1.438) | (3.624) | (0.973) | (3.196) | (3.915) | (0.345) | (2.973) |
| Ln Amount | 0.001 | 0.009 | -0.004 | 0.008 | 0.003 | 0.011 | 0.005 |
| | (0.194) | (0.934) | (-0.453) | (1.035) | (0.351) | (1.347) | (0.871) |
| Loan Covenants Dummy | -0.065 | -0.003 | -0.007 | -0.006 | -0.068 | -0.019 | -0.047 |
| | (-1.509) | (-0.063) | (-0.078) | (-0.156) | (-1.346) | (-0.541) | (-1.442) |
| Loan Performance Dummy | -0.005 | -0.027 | -0.047 | -0.055 | -0.003 | -0.014 | -0.012 |
| | (-0.114) | (-0.434) | (-0.508) | (-1.262) | (-0.048) | (-0.364) | (-0.344) |
| Loan Security | -0.066** | 0.055 | -0.120*** | 0.039 | 0.013 | 0.024 | 0.033 |
| | (-2.136) | (1.314) | (-3.394) | (1.122) | (0.348) | (0.765) | (1.269) |
| Term Spread | -0.159 | -0.053 | -0.346* | -0.109 | -0.219*** | -0.106* | -0.203*** |
| | (-1.276) | (-0.351) | (-1.759) | (-1.045) | (-3.544) | (-1.928) | (-4.657) |
| Credit Spread | 0.197** | 0.046 | 0.325** | 0.120 | 0.284*** | 0.052 | 0.186*** |
| | (2.088) | (0.388) | (2.050) | (1.476) | (4.489) | (0.941) | (4.270) |
| Constant | 6.532*** | 6.537*** | 7.012*** | 6.248*** | 6.691*** | 6.868*** | 6.549*** |
| | (31.293) | (21.766) | (28.972) | (25.736) | (28.726) | (36.592) | (38.174) |
| *N* | 2952 | 2294 | 2024 | 3234 | 2672 | 3022 | 5705 |
| $R^2$ | 0.313 | 0.307 | 0.303 | 0.271 | 0.336 | 0.347 | 0.295 |
| *Control for* | | | | | | | |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

*t*-statistics in parentheses

Note(s): This table examines the effect of *FASSP* on loan spread through cross-sectional analysis. Columns (1-2) report the results of *FASSP* on the cost of debt for the subsample of firms that either implement or do not implement *OHSAS 18001*. The sample is divided into two subsamples, assigning a value of 0 to firms that do not comply with *OHSAS 18001* standards and 1 to those that comply with the

standards. Columns (3-4) report the baseline regression results of *FASSP* on the cost of debt in the presence (or absence) of *CSR committees*. We divide the sample into two subsamples, assigning 0 to firms without a *CSR committee* and 1 to firms with a *CSR committee,* and perform the baseline analysis for each subsample. Columns (5-6) report the baseline regression results in context of firms with different c*apital structures*. We segregate the sample into *debt-dominated* and *equity-dominated* categories based on the mean value of the sample. We assign 0 to firms where debt is the dominant component of capital structure and 1 to firms where equity capital is dominant in the capital structure. Column (7) examines the effect of *FASSP* on loan spread after considering firms' globalization status (MNC). The main explanatory variable is *FASSP*, and the dependent variable is *Ln Spread*. The variable of interest is *FASSP x MNC*. Column (1-7) incorporates all control variables, including firm, loan, and macroeconomic characteristics. Definitions of variables are provided in Appendix A. The results include industry and year-fixed effects, with standard errors clustered by CUSIP at the firm level. t-statistics are reported in parentheses beneath the coefficients. Significance levels are indicated by *, **, and *** for the 10%, 5%, and 1% significance levels, respectively

## Table 11: Effect of FASSP on non-price contractual features

| Dependent variable: non-price contractual loan feature | Probit | | | OLS | |
|---|---|---|---|---|---|
| | *Loan Security* | *Loan Covenants Dummy* | *Loan Performance Dummy* | *Ln Amount* | *Ln Maturity* |
| | (1) | (2) | (3) | (4) | (5) |
| FASSP | 0.424*** | 0.154 | -1.861*** | 0.160** | -0.062 |
| | (2.605) | (0.569) | (-7.942) | (1.975) | (-1.381) |
| Constant | -0.769 | -1.144 | 0.985 | 5.175*** | 4.006*** |
| | (-1.416) | (-1.437) | (1.277) | (16.289) | (27.323) |
| *N* | 6280 | 1374 | 2667 | 6280 | 6280 |
| $R^2$ | | | | 0.012 | 0.372 |
| Control for | | | | | |
| Loan Characteristics | Yes | Yes | Yes | Yes | Yes |
| Firm Characteristics | Yes | Yes | Yes | Yes | Yes |
| Macroeconomic Indicators | Yes | Yes | Yes | Yes | Yes |
| Industry FE | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes |

*t*-statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note(s): This table presents the results of firms' attention to suppliers' social performance (*FASSP*) on different non-price contractual features using OLS estimates and probit regression specifications. Columns (1-3) present the results of probit regression as the variables are binary in nature (*Loan Covenant Dummy, Loan Performance Dummy, and Loan Security).* Columns (4 and 5) report the results of OLS regression, as *Ln Amount* and *Ln Maturity* are continuous values. The main explanatory variable is *FASSP*, and the dependent variables are *Loan Security, Loan Covenant Dummy, Loan Performance Dummy, Ln Amount, and Loan Maturity* in columns (1-5), respectively. For all columns (1-5), we incorporate all control variables, including firm, loan, and macroeconomic characteristics. Definitions of variables are provided in Appendix A. The results include industry and year-fixed effects, with standard errors clustered by CUSIP at the firm level. t-statistics are reported in parentheses beneath the coefficients. Significance levels are indicated by *, **, and *** for the 10%, 5%, and 1% significance levels, respectively.

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## Appendix -A

| Variable Name | Description |
|---|---|
| **Independent Variable** | |
| Firms' attention to supplier social performance (FASSP) | FASSP is a weighted average measure of ten parameters of socially responsible supplier development including forced labor policy, fair trading policy, fair competition policy, supply chain health and safety policy, supplier health and safety survey, supplier ESG training, child labor policy, supplier human right breach policy, and supplier human right policy. It is binary in nature and powered manually using data sourced from LSEG/Refinitiv.<br>*FASSP= 0.1 (policy for fair trade score) + 0.1 (policy for fair competition score) + 0.1 (forced labor policy) + 0.1 (Supply chain health and safety policy) +0.1 (child labor policy) + 0.1 (Human rights breaches policy) + 0.1 (supplier human rights policy) + 0.1 (suppliers' health and safety surveys score) + 0.1 (suppliers' ESG trainings score) + 0.1 (suppliers' health and safety trainings score)* |
| FASSP Direct | Under this approach, firms take an active role by using their own resources to invest in suppliers' education and training. FASSP direct is weighted average index of suppliers' health and safety surveys, suppliers' ESG training, and suppliers' health and safety trainings.<br>*FASSP Direct = 0.33 (suppliers' health and safety surveys score) + 0.33 (suppliers' ESG trainings score) + 0.33 (suppliers' health and safety trainings score)* |
| FASSP Indirect | Under the indirect approach, firms adopt goal-setting theory to ensure suppliers comply with certain policies. For measuring FASSP under the indirect approach, we select parameters that encompass firms' policies and assign equal weights FASSP indirect is weighted average index of firms' policy for fair trade, policy for fair competition, forced labor policy, health and safety policy, child labor, policy, supplier human right breach policy, and supplier human right policy.<br>*FASSP Indirect = 0.14 (policy for fair trade score) + 0.14 (policy for fair competition score) + 0.14 (forced labor policy) + 0.14(supplier health and safety policy for employees) +0.14 (child labor policy) + 0.14 (Human rights breaches policy) + 0.14 (supplier human rights policy)* |
| ***FASSP Index parameters*** | |
| Policy for fair trade | Does the company have a fair trade policy ensuring ethical sourcing, SA 8000 compliance, and transparency in consumer discretionary products like food, clothing, and conflict-free precious stones? |
| Policy for fair competition | Does the company's code of conduct commit to fair competition within suppliers, including respect for intellectual property and avoidance of monopolistic or anti-competitive practices? |
| Forced labor policy | Does the company have a policy, actions, programs or initiatives to avoid forced or compulsory labor for the company or its suppliers |
| Supply chain health and safety policy | Does the company have a policy to improve employee health & safety in its supply chain? |

| | |
|---|---|
| Child labor policy | Does the company have a policy, actions, programs or initiatives to avoid child labor or the employment of children under legal working age for the company or its suppliers? |
| Human rights breaches policy | Does the company report or is willing to terminate the firm-supplier relationship with a sourcing partner if human rights criteria are not met? |
| Supplier human rights policy | Does the company report how human rights criteria in the selection or monitoring process of its suppliers or sourcing partners are followed? |
| Suppliers' health and safety surveys | Does the company demonstrate through surveys or assessments that it is enhancing employee health and safety within its supply chain? Does the company claim to track or evaluate the health and safety performance of its suppliers' using surveys or questionnaires? |
| Suppliers' ESG trainings | Does the company provide training in environmental, social or governance factors for its suppliers? |
| Suppliers' health and safety trainings | Does the company provide training for its executives or key personnel on health and safety within the supply chain? Does the company offer health and safety training to its suppliers or procurement team? Does the company mandate its suppliers train their workforce on health and safety practices? |
| **Dependent Variable** | |
| Cost of Debt *(Ln Spread*) | This refers to the natural logarithm of the all-in drawn spread and represents all spreads and fees at various levels based on the margin expressed in basis points. |
| **Control Variables** | |
| ***Loan Characteristics (LC)*** | |
| Loan Maturity (*Ln Maturity*) | The natural logarithm of loan maturity, measured in months. |
| Loan Size (*Ln Amount*) | The natural logarithm of the loan size, calculated in millions. |
| Loan Performance Covenants (*Loan Performance Dummy)* | A dummy variable set to one if the loan facility incorporates performance pricing, and zero otherwise. |
| Loan operational or financial covenants (*Loan Covenants Dummy)* | A dummy variable set to one if the loan facility includes any covenants, and zero otherwise. |
| Loans Mortgage or Asset-backed (*Loan Security*) | A dummy variable set to one if the loan facility is secured, and zero otherwise. |
| ***Firm Characteristics (FC)*** | |
| Firm Size (*Ln Size*) | The natural logarithm of total assets, measured in US$ millions. |
| Firm Leverage (*Leverage*) | The ratio of long-term debt plus current liabilities to total assets. |
| Market Value to Book value (*MVBV*) | The ratio of the market value of net assets to the book value of net assets. |
| Capital Expenditure (*Ln CAPEX*) | Funds used to acquire fixed assets, excluding acquisitions, such as additions to property, plant, and equipment, as well as investments in machinery and equipment. |
| Profitability (*ROA*) | The ratio of EBITDA to the company's total sales. |
| ***Macroeconomics Indicators (MI)*** | |
| Credit Spread | Difference between the US AAA corporate bond yield and the BAA corporate bond yield |
| Term Spread | Difference between the 10-year and 2-year US Treasury yield |
| **Other Variables** | |

| | |
|---|---|
| Altman Z-Score (*Z-Score*) | Altman Z-Score = 1.2A + 1.4B + 3.3C + 0.6D + 1.0E<br>Where A = working capital to total assets ratio<br>B= Retained earnings to total assets ratio<br>C= Ratio of EBIT to total assets<br>D= Ratio of market value of equity to total assets<br>E= Sales to total asset ratio |
| Credit Default Spread | The credit default spread (CDS) of a company is the difference in yield between its corporate bonds and risk-free government bonds, reflecting the market's assessment of the company's credit risk. |
| Beta | A measure of a stock's volatility or systematic risk in relation to the overall market |
| Firm Governance | The weighted average of a company's relative rating, calculated based on its reported governance information and the scores from three governance categories. |
| Duality | Does the CEO simultaneously chair the board or has the chairman of the board been the CEO of the company? |
| Board Affiliation | Average number of other corporate affiliations for the board member. |
| Board Independence | Percentage of independent board members as reported by the company. |
| ETI | Dummy variable depicting if the company is a member of the Ethical Trading Initiative (ETI) |
| UNGC | A dummy variable indicating whether the firm is United Nations Global Compact signatory or non-signatory. |
| Ohsas 18001 | Does the company have health and safety management systems in place like the OHSAS 18001 (Occupational Health & Safety Management System)/ equivalent internal management system/ environment, health, and safety (EHS) management system/OHSA (Occupational Health and Safety Act) |
| Firm Reputation | Dummy variable depicting whether the firm has received an award for its social, ethical, community, or environmental activities or performance specifically in context of health and safety, human rights, training and development, diversity and opportunity, good citizenship/community/philanthropy, environmental and environmental product award, etc. |
| FASSP Adjusted | FASSP Adjusted is a weighted average measure of socially responsible supplier development after adjusting for the external noise (strikes, contractors' accidents, and contractor fatalities). FASSP Adjusted is binary in nature and powered manually using data sourced from LSEG. |
| Ln interest rate | This refers to the natural logarithm of the interest rate spread and represents the sum of all risk premiums expressed in basis points. |
| Ln Property, Plant & Equipment | Natural logarithm of net property, plant, and equipment |
| Profitability | The difference between sales and total operating expenses |
| Sales Growth | Current year's 12 months net sales or revenues / Last year's 12 months total net sales or revenues - 1) * 100 |

| | |
|---|---|
| Tangibility | [(0.715 *receivables) + (0.547 *inventory) + (0.535 * capital) + cash holdings]/book value of total assets, following Chou et al. (2023). |
| Current Ratio | Ratio of current assets to current liability |
| Firm Age | Number of years since the company is being reported in Refinitiv/LSEG |
| Capital structure | Distribution of debt and equity in total capital of the firm |
| Firm Status | Dummy variable that indicates if a company has international sales or international assets, it is categorized as a multinational corporation (MNC); otherwise, it is classified as local. |
| **Fixed Effects** | |
| Industry Effect (*Industry*) | Dummy variable to segregate company sectors based on Global industry classification scheme (GICS) |
| Year Effect (*Year*) | Dummy variable for every year to control for year effect |