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Is ESG the key to unlock debt financing during the COVID-19 pandemic? International evidence

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A B S T R A C T

In this article, we examine whether stakeholder engagement impacts firms' ability to raise debt during the COVID-19 pandemic. Using firm-level data from 51 countries, we find that firms with greater stakeholder engagement obtain higher debt financing during the COVID-19 pandemic. This effect is more pronounced for riskier firms, highlighting the importance of maintaining relationships with stakeholders. Moreover, we find that stakeholder engagement facilitates higher debt financing for less asset-intensive firms and firms in emerging economies. Our empirical analysis reinforces the role of firms' stakeholder engagement in mitigating the adverse impact of economic shocks.

1. Introduction

The spread of COVID-19 across the globe has evolved into a health pandemic and caused alarming disruptions in economic activities (Almeida, 2021). Several countries imposed lockdown restrictions and strict social distancing norms to contain the spread of COVID-19 (Moosa, 2020). The restrictions resulted in an unprecedented real-sector shock to the firms in several ways: (a) reduced demand for the products, (b) curtailed operations due to containment efforts, and (c) supply chain disruptions. Consequently, the firms responded by increasing their liquidity, especially cash holdings, by issuing long-term debt (Almeida, 2021; Goodell, 2020). While the need for external financing increased during the COVID-19 period, it is insightful to understand the heterogeneity in the debt financing obtained by firms. In this study, we examine whether stakeholder relationships facilitate firms to obtain valuable external financing during the pandemic.

Firms' engagement in corporate social responsibility (CSR) activities improves the relationships with the lenders and reduces the likelihood of short-term opportunistic behaviour (La Rosa et al., 2018). In response to the COVID-19-induced pandemic, market participants increased their attention to CSR initiatives as firms view such commitments as means to enhance firm value (Bae et al., 2021). For instance, Google contributed USD 340 million to Google Ads credit of small businesses to help them stay in touch with...
their customers during COVID-19.\footnote{https://blog.google/inside-google/company-announcements/commitment-support-small-businesses-and-crisis-response-covid-19/} Walt Disney contributed nearly USD 27 million in-kind support in the form of food donations and unused PPE kits to the community.\footnote{https://purpose.businessroundtable.org/}

Previous studies show that firms involved in stakeholder engagement activities have lower downside risk relative to other firms (Broadstock et al., 2021; Hoepner et al., 2016). Investments in CSR activities enable good firm-stakeholder relationships, thereby increasing cash flow generating capacity, reducing cash flow volatility and ultimately reducing the default risk. Albuquerque et al. (2019) argue that firms involved in CSR activities also face lower systematic risk and higher valuations. These firms have relatively lower price elasticity resulting in higher product prices and profits even during market turbulence. Such firms are found to be more resilient during crises episodes due to their loyal customer base and stable product demand (Lins et al., 2017; Albuquerque et al., 2020). Therefore, these firms are less prone to crisis-induced shocks.

The pandemic has shown that maintaining relationships with stakeholders is crucial for dealing with the resulting disruptions.\footnote{https://thezialltdisneycompany.com/app/uploads/2021/02/2020-CSR-Report.pdf} Studies also show that CSR activities help to increase shareholders’ value during crises (Kim et al., 2019; Lins et al., 2017). Firms’ increasing attention to CSR activities has also resulted in increased awareness of lenders’ reputational risk (Eliwa et al., 2019). Consequently, the lenders include CSR engagement as an important metric in the risk assessment checklist (Thompson and Cowton, 2004). Overall, CSR engagement reduces the frictions associated with financial contracting and facilitates better credit access.

We employ a sample of 27,718 firm-quarter observations ranging from 2016 to 2020 for 51 countries. Our key findings are as follows. First, we document that the firms involved in CSR activities are able to obtain higher debt financing during COVID-19. It is likely that the strong relationship with firms’ stakeholders reduce the agency costs and risk perception of lenders. Second, we find that riskier firms with CSR orientation obtain higher debt financing during COVID-19. This suggests that CSR engagement helps in reducing the perceived risk during market turbulence. Next, we find that stakeholder engagement mitigates risk for firms with low tangibility during the COVID-19 period. Fourth, we find that CSR reduces risks and helps emerging economies firms in obtaining higher external financing during the pandemic.

Our study contributes to the debate on whether stakeholder engagement adds value to firms in the following ways. Firstly, to the best of our knowledge, this is the first study to examine the impact of stakeholder engagement on debt financing during COVID-19 pandemic in a cross-country setting. Secondly, our analysis complements the findings on the importance of CSR activities of firms in moderating the adverse impact of crisis as documented by Lins et al. (2017), Cheema-Fox et al. (2020) & Wellalage et al. (2021). Finally, the heterogeneous impact identified in our study captures the channels through which the stakeholder engagement benefits firms during a pandemic-induced real-sector shock.

Our study can be situated in the following strands of the corporate finance literature on the importance of stakeholder engagement. First, our study contributes to the literature related to CSR activities and debt financing. La Rosa et al. (2018) show that higher levels of social performance of firms lead to lower debt costs. The CSR disclosures decrease the chances of opportunistic behaviour by firms’ managers and provide legitimacy to firms (Jones, 1995). Second, our study adds to the literature on the impact of COVID-19 on firm financing. Goel et al. (2020) show that firms significantly increased their borrowing during COVID-19. The pandemic is predicted to increase the cost of financing of firms (Goodell, 2020).

We structure the rest of our paper as follows. We outline the methodology and data in the next section. In Section 3, we present the results and findings of our study followed by robustness tests in Section 4. Finally, we conclude our study in Section 5.

2. Empirical methodology and data

We employ a panel fixed-effects model using firm-quarter observations in a cross-country setting. Specifically, we estimate the following equation as our baseline model:

\[ Y_{it} = \beta_0 + \beta_1 X_{i,t-1} \times COVID - 19_t + \beta_2 X_{i,t-1} + \beta_3 Z_{i,t-1} + \delta_t + \alpha_{i,t} + \epsilon_{it} \] (1)
where the subscripts $i$, $q$, $y$, $j$ and $c$ represent the firm, quarter, year, industry and country, respectively. We use change in debt scaled by total assets of the firm as our dependent variable (represented by $Y$ in Eq. (1)). Our main variable of interest is $X \times COVID - 19$, where $X$ represents the CSR initiatives of the firms. $COVID-19$ is a dummy variable that equals 1 for the period starting from April 2020 to December 2020 and 0 otherwise. $Z$ represents a vector of firm-level control variables. We include firm-fixed effects represented by $\delta$ to control for any firm-level unobserved heterogeneity. We also include $a_{iycj}$ representing the year-quarter-country-industry fixed effects to control for unobserved heterogeneity varying at the year, quarter, country and industry levels, respectively. These interactive fixed effects control for any time-varying effects in isolation as well as at the year-quarter-country-industry level. Such a saturated model will help to reduce the omitted variable bias in the estimations (Gormley and Matsa, 2014). The lagged independent variables and the saturated fixed effects help in mitigating the endogeneity concerns in our model.

We obtain our data from Refinitiv Eikon, the database maintained by Thomson Reuters. The financial variables employed in our study are available at the quarterly level and the CSR-related variables are available at an annual level. Therefore, we use one year lagged value of the CSR variables in our estimations. We exclude financial firms from our study. Finally, we arrive at a sample of 27,718 firm-quarter observations consisting 3690 unique firms from 51 countries. We use data ranging from January 2016 to December 2020.

We measure CSR activities using five measures: Environmental score, Social score, Governance score and ESG score. Furthermore, we also use Env & Social score as an alternative measure of CSR based on Bae et al. (2021). Table 1 provides a brief description and summary statistics of all the variables used in the study. On an average, across our data sample, firms increase debt by 0.81% (19.88 × 0.02) during the pandemic, which is about 48% higher than the average debt financing of firms in our sample (see Table 1). Other measures

Table 2 shows results related to the impact of stakeholder relationship on debt financing during COVID-19 period. Our results primarily indicate that greater engagement in stakeholder activities increases firms’ access to debt financing during COVID-19. We document that a one-unit increase in the ESG score results in 0.02% increase in debt financing during COVID-19. In other words, a one standard deviation increase in ESG score (19.88) enhances debt financing by approximately 0.40% (19.88 × 0.02) during the pandemic, which is about 48% higher than the average debt financing of firms in our sample (see Table 1). Other measures

4 Table A.1 shows the country-wise summary of the sample.
Table 2
Impact of stakeholder relationship on debt financing.

|                                | (1)      | (2)      | (3)      | (4)      | (5)      |
|--------------------------------|----------|----------|----------|----------|----------|
| ESG score × COVID-19           | 0.020**  | (0.009)  | 0.018*** | (0.006)  | 0.016**  |
| ESG score                     | −0.016*  | (0.008)  |          |          |          |
| Environmental score × COVID-19|          |          | 0.018*** | (0.007)  |          |
| Environmental score           | −0.007   | (0.007)  |          |          |          |
| Social score × COVID-19        |          |          |          | 0.016**  |
| Social score                  | −0.011   | (0.008)  |          |          |          |
| Governance score × COVID-19   | 0.012    | (0.008)  |          |          |          |
| Governance score              | −0.010   | (0.007)  |          |          |          |
| Env & Social score × COVID-19 | 0.019*** | (0.007)  |          |          |          |
| Env & Social score            | −0.012   | (0.009)  |          |          |          |
| Size                           | 4.792*** | (0.540)  | 4.793*** | (0.540)  | 4.775*** |
| Profitability                  | −29.180**| (14.112) | −29.219**| (14.102) | −29.230**|
| Tangibility                    | 5.760*** | (2.148)  | 5.843*** | (2.156)  | 5.784*** |
| Leverage                       | −0.267***| (0.071)  | −0.268***| (0.071)  | −0.267***|
| Constant                       | −71.034***| (8.050)  | −71.442***| (8.083)  | −70.932***|

Notes: We employ change in debt scaled by assets as the dependent variable in all the models. COVID-19 equals 1 for Q2'2020 to Q4'2020 and 0 otherwise. Table 1 provides a brief description of the variable construction and its definition. The standard errors shown in parenthesis are both robust and clustered at the firm-level. Significance at the 10%, 5%, and 1% levels are indicated by *, **, and *** respectively.

Table 3
Moderating role of riskiness of firms on the relationship between CSR initiatives and debt financing.

|                                | (1)      | (2)      | (3)      | (4)      | (5)      | (6)      | (7)      | (8)      | (9)      | (10)     |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| ESG score × COVID-19 × Default probability | 1.329**  | (0.535)  |          |          |          |          |          |          |          |          |
| Environmental score × COVID-19 × Default probability | 1.372**  | (0.515)  |          |          |          |          |          |          |          |          |
| Social score × COVID-19 × Default probability | 1.214**  | (0.562)  | 0.486    | (0.366)  |          |          |          |          |          |          |
| Governance score × COVID-19 × Default probability | 1.368*** | (0.509)  |          |          |          |          |          |          |          |          |
| ESG score × COVID-19 × Altman Z score | −0.000   | (0.001)  |          |          |          |          |          |          |          |          |
| Environmental score × COVID-19 × Altman Z score | −0.002*  | (0.001)  |          |          |          |          |          |          |          |          |
| Social score × COVID-19 × Altman Z score | 0.001    | (0.001)  |          |          |          |          |          |          |          |          |
| Governance score × COVID-19 × Altman Z score | −0.001*  | (0.001)  |          |          |          |          |          |          |          |          |
| Env & Social score × COVID-19 × Altman Z score | 0.001    | (0.001)  |          |          |          |          |          |          |          |          |

Notes: We employ change in debt scaled by assets as the dependent variable in all the models. Columns (1)-(5) show the results with Default probability as proxy for riskiness of firms and columns (6)-(10) show the results with Altman Z score as proxy for riskiness of firms. The firm-level control variables for estimations with Default probability include size, profitability, tangibility and leverage of firms. The firm-level control variables for estimations with Altman Z score include size, profitability and tangibility of firms. Table 1 provides a brief description of the variable construction and its definition. The standard errors shown in parenthesis are both robust and clustered at the firm-level. Significance at the 10%, 5%, and 1% levels are indicated by *, **, and *** respectively. We do not show the double interaction terms and the level terms for brevity.
arising from the COVID-19 shock, globally, lenders are reluctant to lend to riskier borrowers. Therefore, we investigate whether the

3.2. Moderating role of firm risk

engagement in CSR activities also leads to reduced systematic risk, thereby increasing firm value during crisis periods (Albuquerque

and stakeholders, reducing information asymmetry and

Our results are in line with the anecdotal findings that firms’ engagement in CSR activities act as a means to legitimize and

Table 4

CSR initiatives, Firm Risk and COVID-19: Subsample analysis.

| Panel A - Size | Developed economies | Emerging economies |
|---------------|---------------------|---------------------|
|                | Large | Small |                | Large | Small |
| ESG score × COVID-19 × Default probability | 5.129** | (2.887) | 3.807 | (0.673) |
| Environmental score × COVID-19 × Default probability | 3.545** | (2.125) | 1.526** | (0.676) |
| Social score × COVID-19 × Default probability | 0.675 | (2.573) | 1.267** | (0.427) |
| Governance score × COVID-19 × Default probability | 4.280** | (1.719) | 1.494 | (0.800) |
| Ete & Social score × COVID-19 × Default probability | 2.787 | (2.412) | 1.462** | (0.651) |
| Firm-level controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 9.539 | 9.539 | 9.539 | 9.539 | 9.539 | 9.005 | 9.005 | 9.005 | 9.005 |
| Firm fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year-quarter-country-industry fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R² | 0.012 | 0.011 | 0.012 | 0.012 | 0.012 | 0.031 | 0.031 | 0.031 | 0.031 |
| Panel B - Tangibility |                |                |
|                | High | Low |                | High | Low |
| ESG score × COVID-19 × Default probability | 1.048 | (0.736) | 6.394* | (3.381) |
| Environmental score × COVID-19 × Default probability | 1.607** | (0.806) | 3.614* | (2.095) |
| Social score × COVID-19 × Default probability | 1.538 | (1.032) | 4.797* | (2.809) |
| Governance score × COVID-19 × Default probability | 0.397 | (0.505) | 1.936 | (2.256) |
| Ete & Social score × COVID-19 × Default probability | 1.672* | (0.920) | 4.613* | (2.605) |
| Firm-level controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 9.588 | 9.588 | 9.588 | 9.588 | 9.588 | 9.028 | 9.028 | 9.028 | 9.028 |
| Firm fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year-quarter-country-industry fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R² | 0.106 | 0.107 | 0.106 | 0.106 | 0.106 | 0.032 | 0.032 | 0.032 | 0.032 |

Notes: Panel A shows the results for subsamples based on size of firms and Panel B shows the results for subsamples based on tangibility of firms. Columns (1)-(5) show the results related to firms with large size/ high tangibility and columns (6)-(10) show the results related to firms with small size/ low tangibility. Table 1 provides a brief description of the variable construction and its definition. The standard errors shown in parenthesis are both robust and clustered at the firm-level. Significance at the 10%, 5%, and 1% levels are indicated by *, **, and *** respectively. We do not show the double interaction terms and the level terms for brevity.

Table 5

CSR initiatives, firm risk and COVID-19: Development state.

| Developed economies | Emerging economies |
|---------------------|---------------------|
| ESG score × COVID-19 × Default probability | 1.549** | (0.609) | 10.048** | (4.197) |
| Environmental score × COVID-19 × Default probability | 1.331** | (0.549) | 6.483** | (2.973) |
| Social score × COVID-19 × Default probability | 1.107** | (0.511) | 10.859** | (4.559) |
| Governance score × COVID-19 × Default probability | 0.833** | (0.412) | 5.907 | (3.734) |
| Ete & Social score × COVID-19 × Default probability | 1.276** | (0.526) | 8.887** | (3.626) |
| Firm-level control variables | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 15.005 | 15.005 | 15.005 | 15.005 | 15.005 | 2.909 | 2.909 | 2.909 | 2.909 |
| Firm fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year-quarter-country-industry fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R² | 0.009 | 0.010 | 0.009 | 0.009 | 0.010 | 0.111 | 0.108 | 0.113 | 0.108 | 0.111 |

Notes: We employ change in debt scaled by assets as the dependent variable in all the models. Columns (1)-(5) show the results for developed economies firms and columns (6)-(10) show the results for emerging economies firms. Table 1 provides a brief description of the variable construction and its definition. The standard errors shown in parenthesis are both robust and clustered at the firm-level. Significance at the 10%, 5%, and 1% levels are indicated by *, **, and *** respectively. We do not show the double interaction terms and the level terms for brevity.

of CSR activities also provide consistent results. Additionally, we run a robustness test excluding observations from United States and Canada (approximately 57% of the sample) and obtain consistent results. We also re-estimate the baseline equation without including quarter fixed effects, which allows us to estimate the average impact of COVID-19 on debt financing. While our results are largely consistent, the results indicate that on average debt financing has significantly reduced during COVID-19 period.

Our results are in line with the anecdotal findings that firms’ engagement in CSR activities act as a means to legitimize and sustain a firm’s relationship with its stakeholders, thereby providing the trust and means to access capital during market stress (Jones, 1995). It also helps firms maintain a strong and transparent relationship with the stakeholders, reducing information asymmetry and agency costs, thereby reducing the risk perception of lenders (La Rosa et al., 2018; Eliwa et al., 2019). Furthermore, the increased engagement in CSR activities also leads to reduced systematic risk, thereby increasing firm value during crisis periods (Albuquerque et al., 2019; Lins et al., 2017). Therefore, during a crisis, firms engaged in CSR activities are likely to have better access to debt capital.

3.2. Moderating role of firm risk

Previous studies show that firms’ CSR engagement helps in reducing default risk (Li et al., 2022). Given the economic uncertainty arising from the COVID-19 shock, globally, lenders are reluctant to lend to riskier borrowers. Therefore, we investigate whether the
impact of CSR engagement is heterogeneous across firms based on their firm risk. Schneider (2011) has followed a similar moderation analysis approach. Accordingly, we use Default probability and Altman Z score as proxies for financial riskiness.

From Table 3, we report that investments in CSR activities enable riskier firms to access debt financing during the pandemic. Holding the ESG score constant at the mean value, a firm with one standard deviation higher default probability (1.3%) obtains about 0.69% higher debt financing during COVID-19. We document consistent results for other measures of CSR activities. Regarding bankruptcy, social score and env & social score interacted with Altman Z score are significant and negatively impact the debt financing during COVID-19. As the riskiness of the firm is affected by the incremental debt taken by firms, it is likely that our results are weakened by potential endogeneity concerns. We try to mitigate the adverse effects of endogeneity by a saturated fixed effects model and lagged explanatory variables. This analysis tries to unearth the heterogeneity in the role of ESG in improving

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\text{Table 6}
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Robustness test results based on COVID-19 sentiment.

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ESG score × COVID-19 Exposure | 0.010* | (0.005) | 0.019 | (0.012) | 0.011*** | (0.003) | 0.022*** | (0.007) | 0.007* | (0.004) |
| Environmental score × COVID-19 Exposure | 0.011*** | (0.003) | 0.004 | (0.005) | 0.011*** | (0.003) | 0.012 | (0.008) | 0.011*** | (0.003) |
| Governance score × COVID-19 Exposure | 0.004 | (0.005) | 0.006 | (0.010) | 0.004 | (0.005) | 0.006 | (0.010) | 0.004 | (0.005) |
| Firm-level control variables | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 16,745 | 16,745 | 16,745 | 16,745 | 16,745 | 16,745 | 16,745 | 16,745 | 16,745 | 16,745 |
| Firm fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year-quarter-country-industry fixed effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R² | 0.025 | 0.025 | 0.025 | 0.025 | 0.025 | 0.025 | 0.025 | 0.025 | 0.025 | 0.025 |

Notes: We employ change in debt scaled by assets as the dependent variable in all the models. Columns (1)-(5) show the results with COVID-19 Exposure as a proxy of COVID-19. Columns (6)-(10) show the results with COVID-19 Negative sentiment as a proxy of COVID-19. Table 1 provides a brief description of the variable construction and its definition. The standard errors shown in parenthesis are both robust and clustered at the firm-level. Significance at the 10%, 5%, and 1% levels are indicated by *, **, and *** respectively.

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\text{Table 7}
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Impact of stakeholder relationship on cost of debt.

| (1) | (2) | (3) | (4) | (5) |
|-----|-----|-----|-----|-----|
| ESG score × COVID-19 | -0.022*** | (0.008) |
| ESG score | 0.003 | (0.006) |
| Environmental score × COVID-19 | -0.007 | (0.007) |
| Environmental score | -0.003 | (0.006) |
| Social score × COVID-19 | -0.004 | (0.007) |
| Social score | 0.004 | (0.008) |
| Governance score × COVID-19 | -0.013*** | (0.005) |
| Governance score | -0.007 | (0.006) |
| Env & Social score × COVID-19 | -0.007 | (0.008) |
| Env & Social score | 0.005 | (0.001) |
| Firm-level control variables | Yes | Yes | Yes | Yes | Yes |
| Observations | 862 | 862 | 862 | 862 | 862 |
| Firm fixed effects | Yes | Yes | Yes | Yes | Yes |
| Year-quarter-country-industry fixed effects | Yes | Yes | Yes | Yes | Yes |
| Adjusted R² | 0.852 | 0.848 | 0.847 | 0.851 | 0.848 |

Notes: We employ weighted average bond yield (%) of all bonds issued by firm i in quarter q as the dependent variable in all the models. COVID-19 equals 1 for Q2’2020 to Q4’2020 and 0 otherwise. Table 1 provides a brief description of the variable construction and its definition. The standard errors shown in parenthesis are both robust and clustered at the firm-level. Significance at the 10%, 5%, and 1% levels are indicated by *, **, and *** respectively.
access to debt financing. Overall, our results indicate that when riskier firms engage in CSR activities, despite the risk, CSR enables them to access debt capital during COVID-19. Our results are consistent with the findings of Albuquerque et al. (2020) & Boubaker et al. (2020).

3.3. Subsample analysis

Next, we conduct a subsample analysis based on the size and tangibility of firms. Previous studies show that large firms are more involved in CSR activities relative to small firms due to their resource availability and lower relative costs (Udayasankar, 2008). On the other hand, small firms are more financially constrained due to higher information asymmetry and borrowing costs (Whited, 1992; Baños-Caballero et al., 2016). Hence, we assess if CSR engagement mitigates risk for small firms and helps them obtain external finance during COVID-19. We classify firms as large or small based on the median value of firm size. We define large firms involved in CSR activities relative to small firms due to their resource availability and lower relative costs (Udayasankar, 2008). On

access to debt financing. Overall, our results indicate that when riskier firms engage in CSR activities, despite the risk, CSR enables them to access debt capital during COVID-19. Our results are consistent with the findings of Albuquerque et al. (2020) & Boubaker et al. (2020).

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5 In unreported results, we also employ the propensity score matched sample and repeat the analysis shown in Table 3. We obtain largely consistent results.
High social score & COVID-19 Exposure (2020), we use 3.4. Estimations with alternative measures of COVID-19 during crisis. 12.43% for developed economies firms. It shows that CSR engagement acts as a cushion and helps firms obtain external financing higher debt financing during COVID-19 for the emerging economies firms, keeping the ESG score constant. Whereas this increase is pronounced for firms in emerging firms. For instance, a one-unit increase in the mean default probability (0.2%) results in 80.62% greater involvement of large firms in CSR activities due to available resources (Udayasankar, 2008; Ting, 2021). Hence, they benefit more from CSR engagement during the crisis.

We also conduct a subsample analysis based on tangibility of firms. According to the trade-off theory, firms with high levels of tangibility have lower bankruptcy risks along with reduced information asymmetry (D’Amato, 2020). On the other hand, low tangible firms have higher information asymmetry. Hence, we find it interesting to analyse whether CSR helps in mitigating risk for low tangibility firms during COVID-19. Accordingly, we classify firms as high tangible or low tangible based on the median value of tangibility. We define high tangible firms as firms with above-median value of Tangibility for low tangible firms during COVID-19. Accordingly, we classify firms as high tangible or low tangible based on the median value of tangibility. We define high tangible firms as firms with above-median value of tangibility, whereas this increase is pronounced for firms in emerging firms. For instance, a one-unit increase in the mean default probability (0.2%) results in 80.62% greater involvement of large firms in CSR activities due to available resources (Udayasankar, 2008; Ting, 2021). Hence, they benefit more from CSR engagement during the crisis.

Next, we conduct a subsample analysis based on the level of economic development. Anecdotal evidence suggests that emerging economies firms are more financially distressed compared to developed economies firms (Bolton et al., 2020). Hence, we analyse if CSR reduces risk and helps emerging economies’ firms obtain higher external financing. We divide the sample into developed or emerging economies based on International Monetary Fund (IMF) classification. We present these results in Table 5. Our results suggest that CSR engagement reduces risk for firms in both developed and emerging economies. However, this effect is more pronounced for firms in emerging firms. For instance, a one-unit increase in the mean default probability (0.2%) results in 80.62% higher debt financing during COVID-19 for the emerging economies firms, keeping the ESG score constant. Whereas this increase is 12.43% for developed economies firms. It shows that CSR engagement acts as a cushion and helps firms obtain external financing during crisis.

### 3.4. Estimations with alternative measures of COVID-19

To test the validity of our results, we conduct robustness tests using alternative measures of COVID-19. Following Hassan et al. (2020), we use COVID-19 Exposure & COVID-19 Negative Sentiment as alternative measures for COVID-19 that has been used in recent studies such as Almaghrabi (2021), and re-estimate Eq. (1). We provide the results in Table 6. Our results using the alternate specifications are consistent with our baseline estimations. We find that greater engagement in CSR enables better access to debt financing during the COVID-19 pandemic.
Table A.4
Two-stage least square regression results (2SLS).

Panel A - First-stage regression

|                      | (1)      | (2)      | (3)      | (4)      | (5)      |
|----------------------|----------|----------|----------|----------|----------|
| Country ESG score    | 0.119**  |          |          |          |          |
|                      | (0.018)  |          |          |          |          |
| Country Environmental score | 0.156*** |          |          |          |          |
|                      | (0.039)  |          |          |          |          |
| Country Social score |          | 0.231*** |          |          |          |
|                      |          | (0.050)  |          |          |          |
| Country Governance score |          | -0.348*** |          |          |          |
|                      |          | (0.090)  |          |          |          |
| Country Env & Social score |          |          | 0.209*** |          |          |
|                      |          |          | (0.039)  |          |          |
| Firm-level controls  | Yes      | Yes      | Yes      | Yes      | Yes      |
| Firm fixed effects   | Yes      | Yes      | Yes      | Yes      | Yes      |
| Year-Quarter-Industry fixed effects | Yes | Yes | Yes | Yes | Yes |
| Observations         | 27,657   | 27,657   | 27,657   | 27,657   | 27,657   |
| SW F test            | 4.93     | 18.02    | 19.41    | 13.26    | 29.40    |
| Prob>F               | 0.026    | 0.000    | 0.000    | 0.000    | 0.000    |

Panel B - Second stage regression

|                      | (1)      | (2)      | (3)      | (4)      | (5)      |
|----------------------|----------|----------|----------|----------|----------|
| ESG score × COVID-19 |          | 0.097*** |          |          |          |
|                      |          | (0.030)  |          |          |          |
| ESG score            |          | 0.115    |          |          |          |
|                      |          | (0.194)  |          |          |          |
| Environmental score × COVID-19 |          | 0.064*** |          |          |          |
|                      |          | (0.016)  |          |          |          |
| Environmental score  |          | -0.029   |          |          |          |
|                      |          | (0.087)  |          |          |          |
| Social score × COVID-19 |          | 0.050*** |          |          |          |
|                      |          | (0.019)  |          |          |          |
| Social score         |          | 0.081    |          |          |          |
|                      |          | (0.081)  |          |          |          |
| Governance score × COVID-19 |          |          | 0.132    |          |          |
|                      |          |          | (0.147)  |          |          |
| Governance score     |          | -0.088   |          |          |          |
|                      |          | (0.086)  |          |          |          |
| Env & Social score × COVID-19 |          |          | 0.063*** |          |          |
|                      |          |          | (0.018)  |          |          |
| Env & Social score   |          | 0.032    |          |          |          |
|                      |          | (0.078)  |          |          |          |
| Firm-level controls  | Yes      | Yes      | Yes      | Yes      | Yes      |
| Firm fixed effects   | Yes      | Yes      | Yes      | Yes      | Yes      |
| Year-Quarter-Industry fixed effects | Yes | Yes | Yes | Yes | Yes |
| Observations         | 27,657   | 27,657   | 27,657   | 27,657   | 27,657   |
| Endogeneity test     | 0.579    | 0.017    | 1.496    | 0.777    | 0.476    |
| Prob>F               | 0.047    | 0.897    | 0.221    | 0.378    | 0.49     |

Notes: Notes: Panel A shows the first-stage regression results. The dependent variable in columns (1), (2), (3), (4), (5) is ESG score, Environmental score, Social score, Governance score, Env & Social score respectively. The SW test shows the Sanderson-Windmeijer chi-square value. Panel B shows the second-stage regression results. We employ change in debt scaled by assets as the dependent variable in all the models in Panel B. The description of all variables is presented in Table 1. The standard errors are shown in parenthesis which are clustered at the firm level. ***, **, * denotes significance level at 1%, 5% and 10% respectively.

3.5. Impact of stakeholder relationship on cost of debt

Next, we also employ cost of debt as the dependent variable to assess the impact of CSR engagement on cost of debt during COVID-19. Following Goss and Roberts (2011), we measure cost of debt as the weighted average bond yields of all bonds issued by a firm in a quarter. We show the results with cost of debt in Table 7. Our results suggest CSR engagement significantly reduces cost of debt during COVID-19. We document that a one-unit increase in the ESG score results in 0.02% decrease in bond yields during the COVID-19 period. Although the estimation results are for subsample of firms, the results strengthen our findings that CSR engagement helps in obtaining higher debt financing at a lower cost during the pandemic.

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6 We obtain bond yields data from Thomson Reuters Fixed Income database.
4. Robustness tests

We conduct additional tests to address potential endogeneity in the CSR variable employed in our study. First, to address the issues arising out of the non-random selection of the sample firms, we employ a propensity score matching (PSM) method to compute the average treatment effects of CSR initiatives on debt financing of firms (Rosenbaum and Rubin, 1983; Rubin, 2001). We examine the characteristics of firms with more and less CSR initiatives (based on median values of ESG, environmental, social, governance and env & social scores), and then compare the debt financing between the groups with the same debt financing propensity. First, we run a logistic regression and use its propensity score to match the treated and control group firms. We use caliper (2%) matching to match the treatment and control groups (Shen and Chang, 2009). Here, the treated and control groups are classified using a dummy variable that equals 1 for the treated group and 0 for the control group. Next, we use the matched sample based on PSM and conduct a difference-in-difference (DiD) analysis. The estimated effect is given by the interaction terms shown in columns (1)-(5) of Table A.3. The results show that firms with higher CSR initiatives obtain higher external financing during COVID-19. Furthermore, we also conduct a DiD analysis (based on the median values of CSR proxies) without PSM to estimate the proposed relationship between CSR initiatives and debt financing during COVID-19. We show the DiD results in columns (6)–(10) of Table A.3. Our results are consistent with the results in Table 2.

Next, to control for potential endogeneity due to reverse causality in the CSR variables, we use a two-stage least squares (2SLS) regression. Endogeneity issues may occur as past years’ CSR initiatives may have an impact on debt financing of firms. Following Laeven and Levine (2009) & Anginer et al. (2018), we instrument CSR proxies using country-level average scores, excluding firms in the peer industry of the respective firm. Table A.4 shows the results of 2SLS estimations. Panel-A in Table A.4 shows the first-stage regression results. Panel B of Table A.4 shows the second-stage regression results with the instrumented ESG variables. Our results are largely consistent with the baseline findings shown in Table 2.

5. Conclusion

In this article, we examine the impact of firms’ stakeholder engagement on debt financing during COVID-19. Our empirical analysis suggests that increased engagement in CSR activities enable firms to access debt capital during COVID-19-induced crisis. In addition, we document that riskier firms involved in CSR activities obtain higher debt financing during the pandemic, despite the risk associated with such firms.

The pandemic caused direct shocks to the economy worldwide and constrained firms’ liquidity. Therefore, firms need to be resilient to deal with the challenges caused by COVID-19-induced crisis. Our study provides evidence that socially responsible behaviour of firms can help during the COVID-19-induced crisis by providing better access to external capital. This enables resiliency during crises and facilitates valuable resources to survive the adverse impact of the shocks. The insights from the study reinforce the need for firms to be socially responsible. The reputation and the responsible behaviour of firms lower the risk perception of stakeholders towards firms during crisis periods.

CRediT authorship contribution statement

Jagriti Srivastava: Conceptualization, Writing – original draft, Writing – review & editing, Data curation, Software, Formal analysis, Investigation. Aravind Sampath: Conceptualization, Writing – original draft, Writing – review & editing, Validation, Formal analysis, Investigation, Resources. Balagopal Gopalakrishnan: Conceptualization, Writing – original draft, Writing – review & editing, Validation, Formal analysis, Investigation, Resources.

Data availability

Data will be made available on request.

Appendix

See Tables A.1 and A.4.

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7 In unreported results, we classify firms with high CSR initiatives based on top quartile values of CSR proxies. We obtain largely consistent results. We acknowledge that there could be temporal variation in the estimated impact on the treatment group and the average impact for the treated group. Furthermore, we re-estimate the PSM second stage with the quarter-by-quarter change in the incremental debt raised by firms with higher stakeholder orientation compared to other firms during the COVID-19 period. Our results reveal that the impact of CSR on debt financing is driven by the second quarter of 2020.

8 Alternatively, based on Shakil (2021), we also use two-year lagged values of CSR proxies as instrument variables and find consistent results, which is unreported for brevity. As ESG variables tend to be persistent, the exclusion criteria of the instrument may not be satisfied.
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