Real effects of social trust on firm performance during COVID-19

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This study uses a difference-in-differences estimation method to address potential endogeneity between corporate social responsibility (CSR) and firm performance using a natural experiment of COVID-19, with a cross-country sample of 80,454 firm-quarter observations across 51 countries. We find that high-CSR firms show better performance, raise more debt, and invest more during COVID-19. The positive effect of CSR on firm performance is more pronounced in countries with better governance and among non-International Financial Reporting Standards adopters. Our findings suggest that when trust in firms and markets falls during an economic crisis, the trust established between a firm and its stakeholders via socially responsible behavior pays off.

1 | INTRODUCTION

Virtually every commercial transaction has within itself an element of trust, certainly any transaction conducted over a period of time. It can be plausibly argued that much of the economic backwardness in the world can be explained by the lack of mutual confidence (Arrow, 1972).

Economic downturns reinforce the importance of social trust between a firm and its stakeholders. Social trust is established through a firm’s responsible behavior toward its stakeholders. During the global financial crisis (GFC) of 2008, one of the most severe and recent examples of a significant macroeconomic downturn, Lins et al. (2017) find a better firm performance among high-corporate social responsibility (CSR) firms in comparison to low-CSR firms. Unlike the GFC, when risk and uncertainty increased over time, the COVID-19 pandemic that emerged in 2019 had an immediate economic impact (Bernanke, 2020). As a result, the pandemic caused a severe deterioration in the firm’s performance (Hu & Zhang, 2021). The COVID-19 pandemic had an abrupt hit on the normal functioning of the stock market (Orhun, 2021) and financial stability where social trust is expected to insulate corporates from disruptions (Arora et al., 2021). Considering the importance of social trust during an economic disruption, various studies analyze the impact of CSR on firm performance during COVID-19. Arora et al. (2021) found a positive association between CSR and firm value during COVID-19. Ding et al. (2021) found that the COVID-19-induced reduction in stock return was less for firms engaged in more CSR activities. In another study contextualized in the US market, Bae et al. (2021) did not find any evidence of the impact of CSR on stock returns during COVID-19. These studies highlight the importance of social trust on firm performance in various contexts and provide mixed evidence. However, our study extends this body of literature by analyzing various firm-level and country-level moderators of the association between firm performance and CSR during COVID-19 across countries.

There is conflicting evidence from previous studies regarding the benefits and drawbacks of CSR on firm performance. According to stakeholder theory, CSR provides an insurance effect by enhancing firms’ reputations and social trust among various stakeholders (Brown & Forster, 2013; Kabir & Thai, 2017). The stakeholder view, hence, suggests a positive association between firm performance and CSR. However, agency theory posits a contradictory view. According to agency theory, managers promote CSR activities to facilitate their managerial entrenchment, which negatively impacts the firm’s performance (Cespa & Cestone, 2007). However, the inconsistent results reported in previous studies are interpreted as a problem of endogeneity (Yi et al., 2021). The COVID-19 pandemic’s adverse impact on firm performance offers a natural experiment setting to explore the issue of endogeneity between CSR and firm performance. In our first
set of analyses, we empirically re-examine the association between firm performance and CSR during COVID-19 using cross-country firm-level quarterly financial data from the Refinitiv Eikon database.

The empirical analysis of the impact of social trust on firm performance is challenging since social trust is a broadly defined term. Following Lins et al. (2017), we use socially responsible activities (CSR) of corporates as a measure of social trust, proxied by the ESG score. An ESG score is a combined score indicating the quality of a firm’s environmental, social, and governance activities. First, we examine how ex-ante CSR activities affect firm performance during COVID-19. Using a fixed effect panel estimation method, we find a positive relationship between firm performance and CSR during COVID-19. More specifically, our results indicate that a unit rise in ESG score corresponds to a 0.12% increase in Tobin’s Q. Our findings are in line with the stakeholder theory and the observations of Arora et al. (2021), Huang and Ye (2021), and Yi et al. (2021), indicating that when the overall level of trust in firms falls during an economic crisis, the trust established between a firm and its stakeholders through socially responsible behavior pays off through improved firm performance.

Second, we explore possible firm-level channels through which CSR influences firm performance. To examine the capital investment channel during a crisis of trust, we examine 61,699 firm-quarter-year observations and find that high-CSR firms are able to achieve better performance through contemporaneous growth in capital expenditure. The findings support Benlemlih and Bitar’s (2018) contention that CSR plays an important role in influencing firms’ investment behavior and efficiency during economic downturns. We empirically analyze the debt financing channel and find that high-CSR firms are able to achieve better performance by raising more debt funds during COVID-19. Our findings suggest that the better firm performance of high-CSR firms is routed through enhanced debt financing and better sales growth during COVID-19. The findings support the narratives of Cooper and Uzun (2015) that CSR plays a significant role in building confidence among lenders, which facilitates debt raising during economic downturns.

Third, we analyze the country-level channels that can possibly moderate the association between firm performance and CSR during COVID-19. We find that the positive association between firm performance and CSR during COVID-19 is more pronounced among firms in countries with higher government effectiveness and freedom of expression. Further, consistent with the substitution hypothesis of CSR and IFRS, we find that the positive association between CSR and firm performance during COVID-19 is more pronounced among non-adopters of IFRS with a lower level of accounting quality.

This study makes two contributions to the literature in the following ways. First, our study contributes to the increasing literature that analyzes the impact of COVID-19 on firm performance by investigating the impact of CSR on firm performance and various firm-level and country-level channels through which high-CSR firms achieve better firm performance during COVID-19. To date, most COVID-19 pandemic studies provide inconclusive evidence on the association between CSR and firm performance. For instance, Yi et al. (2021) show a greater market reaction among China’s high-CSR firms during COVID-19. However, Bae et al. (2021) in the United States failed to report any influence of CSR on stock returns. Our study extends this line of literature by demonstrating that high-CSR firms achieve better performance through contemporaneous capital expenditure growth and external debt financing availability. While our focus is on the impact of CSR on firm performance during COVID-19, our research design allows us to overcome endogeneity concerns associated with CSR.

Second, our study answers the call made by Humphreys and Trotman (2021) to address the CSR-based judgment and decision making of various stakeholders during COVID-19. We find that firms with better stakeholder engagement obtain higher debt as the bonds are reinforced by social trust, which leads to higher firm performance during COVID-19. Also, high-CSR firms enjoy better investment opportunities during the economic crisis. Contributing to the “judgment and decision-making research in accounting” during COVID-19, our findings provide evidence on how lenders, government, and project managers perceive CSR information. Our results deepen the understanding of the effect of CSR on firm performance and various related channels.

The rest of this paper proceeds as follows. Section 2 provides a detailed literature review; Section 3 describes the data, sample selection, and research methodology; Section 4 provides the empirical results; and Section 5 concludes the paper, followed by Appendices A–C.

2 | RELATED LITERATURE AND HYPOTHESIS DEVELOPMENT

2.1 | COVID-19, social trust, and firm performance

Lins et al. (2017) described CSR as a metric of social trust that indicates managerial participation, willingness to cooperate, and shared beliefs among stakeholders of a firm. Given the importance of social trust, the question arises as to whether the socially responsible behavior of a firm is compatible with the maximization of firm value. Prior literature analyzes the impact of social trust on firm performance based on two competing theories. According to the stakeholder theory, one would expect a positive association between social trust and firm value as social trust reduces conflict and improves communication between managers and stakeholders (Freeman, 1984). Consistent with the stakeholder hypothesis, Jo and Harjoto (2011) find a positive association between CSR and firm value. Similarly, Harjoto and Laksmana (2018) find that CSR improves firm value by controlling the excessive risk-taking behavior of firms. In contrast, according to agency theory, managers choose to overinvest in socially responsible activities for their empire-building and entrenchment. Overinvestment in socially responsible activities is detrimental to firm value. Buchanan et al. (2018) find that CSR is negatively associated with firm value.

Prior studies provide contradictory results on whether social trust is beneficial or detrimental to firm value. Inconsistent results of
previous studies are viewed as a problem of endogeneity for two reasons (Buchanan et al., 2018). First, firms tend to engage in socially responsible activities when they perform well. Second, the underlying objective of CSR (agency theory or stakeholder theory) could improve or reduce firm value. We address this empirical challenge by using COVID-19 as a natural experiment. A recent set of studies examines the advantages of social trust during various economic downturns, such as COVID-19 and the GFC. Lins et al. (2017) showed that social trust is positively associated with firm performance during the GFC. In a cross-country analysis, Ding et al. (2021) observed that CSR provides corporate immunity during COVID-19. Huang and Ye (2021) found that the negative impact of COVID-19 is lower among high-debt firms with better CSR performance. Arora et al. (2021) observed a better performance among high-CSR firms in comparison to low-CSR firms. Similarly, Yi et al. (2021) found a favorable market reaction among high-CSR firms in China. However, in the US, Bae et al. (2021) failed to report any impact of CSR on stock returns during COVID-19. We empirically re-examine the association between firm performance and social trust during COVID-19 in a cross-country context.

2.2 | Firm-level factors

2.2.1 | Capital investment channel

High-CSR firms enjoy a better information environment, a higher firm reputation, improved accounting quality, and stakeholder solidarity (Cui et al., 2018). Reduction in information asymmetry facilitates more efficient investment opportunities, thereby reducing over-investment (Lang et al., 1996). A higher reputation and better stakeholder relationships allow easy access to the financial market, facilitating them to invest in positive NPV projects (El Ghoul et al., 2011). In addition, the strategic skills of managers lead to high social and financial performance by investing in profitable projects (Waddock & Graves, 1997). CSR activities create an implicit agreement with the managers and stakeholders, leading to more efficient investment decisions (Cook et al., 2019). Also, firms with a high level of CSR can acquire external finance, allowing them to make all of their desired investments.

Previous studies analyzed the association between CSR and investment efficiency in various contexts. Rhodes (2010) suggests that socially responsible firms invest more in profitable and socially responsible projects. Khediri (2021) documents a positive association between social trust and investment efficiency among firms in European countries. Similarly, Shahzad et al. (2018) found a stronger positive association between CSR and firm performance among firms with higher investor protection. The optimal level of investment is a function of the agency problem and the information asymmetry (Jensen & Meckling, 1976). As managerial entrenchment and empire-building alter the agency cost of investment, firms could end up with overinvestment that negatively impacts firm value. Hence, an opposing argument is that high-CSR firms tend to over-invest, causing a reduction in investment efficiency, hence being detrimental to firm value (Lin et al., 2021).

The strategic benefits of CSR are more significant during a financial crisis. As the pandemic has a significant negative impact on a firm’s operating value, social trust is supposed to protect it from upheavals. Benlemlih and Bitar (2018) found that high-CSR involvement increases investment efficiency, and the impact is more pronounced during the subprime crisis. In aggregate, the studies discussed above provide empirical support for a positive relationship between CSR performance and capital investment by reducing information asymmetry and enhancing the monitoring of managerial actions. Accordingly, if CSR is a factor that enhances investment efficiency and opportunities during an economic crisis, one would expect that the positive association between CSR and firm performance is channeled through enhanced capital investment during COVID-19. This study postulates that the social trust of firms should pay off by increasing their capital investment during the unprecedented uncertainty of COVID-19.

2.2.2 | External financing channel

Debt financing supports the growth of a firm by meeting the requirements of external funds. Therefore, access to the debt fund at a low cost is crucial for firm success. Prior studies examine the impact of social trust on the availability of debt funds and the cost of debt (e.g., Ye & Zhang, 2011). As stakeholder theory suggests, high-CSR firms enjoy various competitive advantages over their low-CSR counterparts through better use of investment opportunities, low-cost sourcing of finance, and prospering future growth plans (Ye & Zhang, 2011). The improved social trust between stakeholders and the firm helps to reduce operating risk and the risk of litigation (Dhaliwal et al., 2011). Stakeholder theory suggests that firms with a stronger orientation toward socially responsible activities maintain a competitive edge over low-CSR firms. Firms with a higher level of CSR should be able to retain their suppliers, employees, and community support, thereby having a lower risk perception among financiers. As the economic crisis incentivizes firms to participate in unethical activities, firms regarded as socially responsible are receiving increasing attention.

A better operating environment reduces the cost of debt financing and thereby enhances the availability of debt funds, which together makes firms less vulnerable to adverse events and financial crises (Goffrey, 2005; Vanhamme & Grobben, 2008). Bhattacharya and Sen (2004) suggested that investing in social capital enhances a firm’s reputation, which leads to stakeholder resilience in the face of adversity and better access to external debt. As the lenders become more attractive to the corporate fundamentals during the economic uncertainty, the high-CSR firms enjoy more availability of debt funds. Consistent with this argument, Cooper and Uzun (2015) find that CSR gives a competitive advantage to firms in procuring debt at the lowest cost during a financial crisis. Accordingly, if CSR is a factor that reduces the cost of debt and enhances the availability of external finance during an economic crisis, one would expect that the better firm performance of high-CSR firms is channeled through the availability of debt funds during COVID-19.
2.2.3 | Growth channel

The social trust of a firm is becoming increasingly important as firms are evaluated on their ability to meet not only the expectations of shareholders and employees but also the needs of customers and suppliers. Various studies indicate that social trust has a significant role in impacting consumer behavior. For instance, Smith et al. (2013) argued that customers switch to brands that contribute more to charitable purposes. In a similar line, Mohr and Webb (2005) found that socially responsible activity positively impacts the customer’s evaluation of firms. High-CSR firms retain a more reliable customer and supplier base and enjoy sustainable and long-term growth in their sales and earnings (Pedersen & Andersen, 2006). According to Khan et al. (2016), firms that invest in social trust have stronger brands and differentiation and, as a result, enjoy higher growth and profitability.

High-CSR firms have several competitive advantages, including greater use of capital investments and access to low-cost financing, which collectively lead to higher growth in sales and earnings. Also, firms with a high level of CSR can acquire external financing, allowing them to make all of their desired investments in positive NPV projects. The strategic advantage of social trust offers various competitive advantages to high-CSR firms, making them less vulnerable to negative events and financial crises. Consistent with this argument, Carrigan and de Pelsmacker (2009) observed that ethical and sustainable consumers continued to support high-CSR firms during the global financial crisis that instilled anxiety and unstable economic conditions. In their analysis, Lins et al. (2017) found that high-CSR firms experienced higher sales growth and profitability relative to low-CSR firms during the 2008–2009 financial crisis. Accordingly, if CSR plays a significant role in increasing sales and enhancing profitability during an economic crisis, one would expect that the firm performance of high-CSR firms is channeled through sales growth during COVID-19.

2.3 | Country-level factors

2.3.1 | Country-level governance

Socially responsible activities of a firm demonstrate conformance of social trust to the stakeholders. A better governance framework of a country ensures the quality of CSR practices and motivates firms to engage in more effective CSR initiatives (de Villiers & Marques, 2016). CSR activities of firms are more informative in countries where investors are better able to express their concerns and when government effectiveness is stronger (de Villiers & Marques, 2016). Also, the stakeholders rely on investor protection regulations that promote a more transparent information environment for business transactions. In countries where stakeholders raise their voices and concerns, it is likely to reduce the consequences of non-compliance with CSR regulations. Hence, CSR would be more impactful in creating trust among stakeholders in countries with an effective governance mechanism and better investor protection. Taken together, government effectiveness plays an important role in facilitating firm performance and promoting the positive impact of CSR.

Good governance is critical to mitigating the negative effect of COVID-19 on firm performance. An effective government system facilitates firm performance by ensuring the availability of finance during an economic crisis (Qian & Strahan, 2007). Various countries provided critical liquidity support to firms during this economic breakdown in many ways. Some countries introduced tax deferral strategies to alleviate the cash flow difficulties during COVID-19 (OECD, 2021). Similarly, many governments permitted banks to grant moratoriums to corporates at the onset of the pandemic as part of their fiscal policy reforms (IMF, 2021). Such active involvement of the government provides some immunity to corporate performance during a crisis period. Also, when country-level governance becomes stronger, CSR becomes more effective in enhancing firm performance during COVID-19. Consistent with this argument, Hu and Zhang (2021) observed that the negative effects of COVID-19 on firm performance are less pronounced in countries with higher government effectiveness and better voice and accountability. To handle the turmoil, COVID-19 has emphasized the importance of strong policies and effective government functioning. An effective government system might successfully control the interruption and refocus its attention on regular operations, therefore indirectly facilitating firm performance. In this context, we analyze whether government effectiveness and freedom of expression facilitate the positive association between firm performance and CSR during COVID-19.

2.3.2 | Transparency of accounting practices

Previous studies highlight the association between IFRS and CSR (Hickman et al., 2020; van der Laan Smith et al., 2014; Weerathunga et al., 2020). IFRS adoption provides managers with an opportunity to respond to increased stakeholder demand by improving accounting quality and disclosing more corporate social information, which creates trust among firms and stakeholders (Weerathunga et al., 2020). Similarly, CSR also creates a better stakeholder–firm relationship through socially responsible activities. If IFRS adopters traditionally prioritize their stakeholder relationships through improved transparency and accounting quality, such IFRS adopters will not experience the incremental advantage of CSR initiatives (van der Laan Smith et al., 2014) during COVID-19. Accordingly, if CSR and IFRS are substitutes, firms in non-IFRS countries benefit more from CSR during COVID-19 than their IFRS counterparts. However, a competing view is that IFRS adoption could improve voluntary disclosures, including social and environmental information (Li & Yang, 2015), which would enhance the visibility of CSR activities among stakeholders, and jointly enhance social trust. If the IFRS adopters use the discretion to publicize their CSR activities through voluntary disclosure, then IFRS adopters will experience an incremental advantage from CSR initiatives during COVID-19. Accordingly, if IFRS acts as a complement to CSR, firms in IFRS countries benefit more from CSR during COVID-19 than non-IFRS adopters. In this context, we analyze whether the
positive association between CSR and firm performance during COVID-19 differs among firms operating in those countries that have adopted International Financial Reporting Standards (IFRS).

3 | DATA, SAMPLE SELECTION, AND RESEARCH METHODOLOGY

3.1 | Data and descriptive statistics

We constructed a cross-country sample of firms using the Refinitiv Eikon database, spanning 2015Q2 to 2020Q4. This data has been used in many recent studies in finance (e.g., Dong et al., 2021; Jinjarak et al., 2021). We considered non-financial firm-quarter observations with non-missing values of Tobin’s Q, control variables, and ESG measures. Our final sample consists of a sample size of 80,454 firm-quarter observations, representing 4660 unique firms across 51 countries. Panel A of Table 1 describes this sample composition. Further, Panel C of Table 1 reports the country-wise distribution of firm-quarter observations in each year of our study period. There is a reasonable variation across the countries, although the United States and Japan provide approximately 60.43% (51.81 + 8.62) of our primary sample. As we do not have equal data points for all firms and countries across the sample period, this study uses an unbalanced panel of 80,454 firm-quarter observations from 2015Q2 to 2020Q4.¹

We use a market-based measure, Tobin’s Q, to quantify firm performance. Tobin’s Q is measured as the ratio of the market value of the firm to its book value. We also use return on equity (ROE) as an alternative measure of firm performance to test the robustness of our baseline results. WHO designated COVID-19 as a public health emergency of worldwide concern on January 30, 2020, and on March 11, 2020, the WHO classed COVID-19 as a pandemic. Hence, the major uncertainties related to the pandemic might affect the firm performance only after December 2019. Following this chronology, we define COVID-19 as a period dummy variable equal to one if the firm-quarter observation is after December 2019, zero otherwise. More specifically, we considered the firm-quarters from January 2020 to December 2020 as the COVID period. Similarly, previous studies that analyze firms’ responses to the COVID-19 pandemic also consider the period from January 2020 as the COVID-19 period (Acharya & Steffen, 2020; De Vito & Gómez, 2020).

Social trust between stakeholders and a firm is a broadly defined term. Following Lins et al. (2017), we use corporate social responsibility activities as a measure of social trust, proxied by the ESG score provided by the Refinitiv Eikon database. Specifically, we use four scores to indicate the quality of a firm’s environmental, social, and governance activities. First is the combined ESG score (ESG SCORE), defined as the “overall score based on environmental, social, and corporate governance scores” of a firm (Demers et al., 2021). Second is the social score (SOC SCORE), defined as the “human capital, product liability, stakeholder opposition, and social opportunity scores” of a firm. The third is the governance score (GOV SCORE), defined as the “corporate governance and corporate behavior score” of a firm. Fourth is the environmental score (ENV SCORE), defined as the “climate change, natural capital, pollution and waste, and environmental opportunity scores” of a firm.²

The variable used to examine the quality of country-level governance is sourced from Kaufmann et al. (2010). We use the government efficiency score (GOVT_EFF) to measure the quality of public services and the voice and accountability score (VOICE) to measure freedom of expression. The government efficiency score captures “the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government’s commitment to such policies” (Kaufmann et al., 2010). The voice and accountability score captures “perceptions of the extent to which a country’s citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media” (Kaufmann et al., 2010). A higher value of the government efficiency score (voice and accountability score) indicates higher effectiveness of government (higher freedom of choice and expression). Several studies in the governance literature have employed these data.³ Furthermore, we identify mandatory IFRS adopters from the list of countries provided by the IFRS Foundation.⁴ We code a firm as one if it adopts IFRS during the COVID-19 period and zero otherwise.

We include a set of firm-level controls considered as the important determinants of firm performance and to control firm-level heterogeneity, such as leverage (LEV), research and development (RD), size (SIZE), plant property equipment (PPE), intangibles (INTANGIBLE), and size (SIZE). We employ a highly saturated panel fixed effect model to control unobserved heterogeneity and reduce the potential omitted variable bias. We control for unobserved country-specific heterogeneity, unobserved firm-specific heterogeneity, and unobserved time-varying effects at the country-industry levels in our model. A detailed description of the variables is shown in Appendix A. Panel B of Table 1 provides summary statistics of the variables used in our study. All continuous variables are winsorized at the 1% and 99% levels. The average Tobin’s Q is about 1.53%, with a median of 0.928%. The ESG SCORE averages 44.74 with a median of 43.49. The average values of the ENV SCORE, GOV ESG, and SOC SCORE are 35.30, 50.59, and 46.09, respectively. The PPE (INTAN) averages 20.4% (7.6%). The log size (SIZE) of our sample is 9.10, and the firms are moderately leveraged (LEV) with a debt-to-asset ratio of 27.4%. Around 24% of our sample firm-quarters are mandatory adopters of IFRS, and on average, the firms are showing better government effectiveness (1.331) and freedom of expression (0.712). Panel D of Table 1 presents the pairwise correlation for our dependent variable, the variable of interest, and other control variables.

3.2 | Research methodology

First, to test the association between COVID-19, firm performance, and CSR, following Lins et al. (2017), we employ a differences-in-differences specification controlling for unobserved heterogeneity at
### TABLE 1  Sample composition, descriptive statistics, and correlation matrix

#### Panel A: Sample composition

The sample covers the period from 2015 Q2 to 2020 Q4. All financial statement data are acquired from the annual fundamentals database produced by Thomson Refinitiv eikon.

| Criteria | Number of firm-quarter observations | Number of firms | Number of countries |
|----------|-------------------------------------|-----------------|---------------------|
| Nonfinancial firm-quarter observations with non-missing values of control variables and ESG measures | 80,454 | 4,660 | 51 |

#### Panel B: Descriptive statistics for full sample

|        | N   | Mean | SD | Min | Median | Max |
|--------|-----|------|----|-----|--------|-----|
| Tobin's Q | 80,454 | 1.527 | 1.875 | 1.001 | 0.928 | 10.000 |
| ESG | 80,454 | 44.74 | 20.727 | 4.634 | 43.493 | 82.323 |
| ENV ESG | 80,450 | 35.30 | 29.083 | 1.000 | 32.048 | 82.343 |
| GOV ESG | 80,454 | 50.59 | 22.213 | 3.818 | 51.537 | 81.491 |
| SOC ESG | 80,450 | 46.09 | 23.753 | 1.886 | 45.043 | 83.342 |
| PPE | 80,454 | 0.304 | 0.254 | 0.000 | 0.230 | 0.352 |
| SIZE | 80,454 | 9.106 | 2.861 | -0.47 | 8.636 | 16.307 |
| GROWTH | 80,454 | -0.035 | 0.509 | -5.725 | 0.019 | 1.000 |
| LEV | 80,454 | 0.274 | 0.223 | 0.000 | 0.256 | 0.567 |
| INTAN | 80,454 | 0.076 | 0.109 | 0.000 | 0.031 | 0.543 |
| RD | 80,454 | 0.376 | 0.484 | 0.000 | 0.000 | 1.000 |
| CAPEX | 80,454 | 0.029 | 0.034 | 0.000 | 0.017 | 0.188 |
| VOICE | 80,454 | 0.712 | 0.810 | -1.843 | 0.976 | 1.725 |
| GOV, EFF | 80,454 | 1.331 | 0.498 | -0.769 | 1.488 | 2.330 |
| IFRS | 80,454 | 0.235 | 0.424 | 0.000 | 0.000 | 1.000 |
| GROWTH | 80,454 | -0.035 | 0.509 | -5.725 | 0.019 | 1.000 |

#### Panel C: Country-wise distribution of firm-quarters

| Country | Total firm-quarter | Relative frequency (%) | 2015Q2-2015Q4 | 2016Q1-2016Q2 | 2017Q1-2017Q4 | 2018Q1-2018Q4 | 2019Q1-2019Q4 | 2020Q1-2020Q4 |
|---------|--------------------|------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Argentina | 552 | 0.69% | 3 | 63 | 85 | 147 | 147 | 107 |
| Australia | 42 | 0.05% | 3 | 7 | 8 | 8 | 8 | 8 |
| Austria | 346 | 0.43% | 27 | 36 | 40 | 74 | 88 | 81 |
| Bahrain | 44 | 0.05% | 6 | 8 | 8 | 8 | 8 | 6 |
| Belgium | 143 | 0.18% | 12 | 19 | 24 | 30 | 30 | 28 |
| Brazil | 265 | 0.33% | 29 | 36 | 42 | 44 | 64 | 50 |
| Canada | 4,669 | 5.80% | 497 | 706 | 739 | 793 | 1,002 | 932 |
| Chile | 554 | 0.69% | 44 | 101 | 104 | 106 | 111 | 88 |
| Country      | Total firm-quarter | Relative frequency (%) | 2015Q2-2015Q4 | 2016Q1-2016Q2 | 2017Q1-2017Q4 | 2018Q1-2018Q4 | 2019Q1-2019Q4 | 2020Q1-2020Q4 |
|-------------|--------------------|------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| China       | 5,839              | 7.26%                  | 150           | 204           | 780           | 907           | 1930          | 1868          |
| Colombia    | 204                | 0.25%                  | 11            | 32            | 43            | 42            | 44            | 32            |
| Denmark     | 619                | 0.77%                  | 54            | 76            | 88            | 128           | 142           | 131           |
| Egypt       | 96                 | 0.12%                  | 12            | 16            | 20            | 20            | 20            | 8             |
| Finland     | 650                | 0.81%                  | 69            | 92            | 99            | 116           | 139           | 135           |
| France      | 166                | 0.21%                  | 18            | 24            | 28            | 32            | 32            | 32            |
| Germany     | 2,150              | 2.67%                  | 162           | 220           | 277           | 481           | 538           | 472           |
| Greece      | 98                 | 0.12%                  | 12            | 13            | 12            | 22            | 20            | 19            |
| Hong Kong   | 392                | 0.49%                  | 43            | 51            | 62            | 71            | 87            | 78            |
| Hungary     | 71                 | 0.09%                  | 9             | 12            | 12            | 12            | 14            | 12            |
| India       | 618                | 0.77%                  | 80            | 94            | 90            | 99            | 129           | 126           |
| Indonesia   | 772                | 0.96%                  | 90            | 124           | 131           | 136           | 148           | 143           |
| Ireland     | 23                 | 0.03%                  | 3             | 4             | 4             | 4             | 4             | 4             |
| Israel      | 149                | 0.19%                  | 19            | 28            | 28            | 28            | 27            | 19            |
| Italy       | 245                | 0.30%                  | 21            | 28            | 40            | 52            | 51            | 53            |
| Japan       | 6,935              | 8.62%                  | 870           | 1,175         | 1,195         | 1,224         | 1,296         | 1,175         |
| Kazakhstan  | 23                 | 0.03%                  | 0             | 0             | 4             | 4             | 7             | 8             |
| Korea; Republic | 2,222      | 2.76%                  | 266           | 358           | 398           | 413           | 487           | 300           |
| Kuwait      | 134                | 0.17%                  | 18            | 24            | 24            | 24            | 24            | 20            |
| Malaysia    | 992                | 1.23%                  | 114           | 156           | 171           | 175           | 196           | 180           |
| Mexico      | 781                | 0.97%                  | 78            | 124           | 139           | 148           | 156           | 136           |
| Netherlands | 227                | 0.28%                  | 19            | 26            | 31            | 50            | 51            | 50            |
| Norway      | 641                | 0.80%                  | 44            | 57            | 68            | 143           | 167           | 162           |
| Oman        | 85                 | 0.11%                  | 9             | 16            | 16            | 16            | 16            | 12            |
| Peru        | 403                | 0.50%                  | 9             | 84            | 84            | 86            | 88            | 52            |
| Philippines | 451                | 0.56%                  | 60            | 80            | 80            | 80            | 78            | 73            |
| Poland      | 497                | 0.62%                  | 51            | 62            | 64            | 108           | 112           | 100           |
| Portugal    | 144                | 0.18%                  | 12            | 16            | 20            | 32            | 32            | 32            |
| Qatar       | 146                | 0.18%                  | 18            | 24            | 24            | 28            | 28            | 24            |
| Russia      | 414                | 0.51%                  | 43            | 62            | 67            | 85            | 83            | 74            |
| Saudi Arabia| 349                | 0.43%                  | 24            | 32            | 40            | 72            | 95            | 86            |
| Singapore   | 672                | 0.84%                  | 81            | 112           | 112           | 116           | 200           | 51            |
### Table 1 (Continued)

#### Panel C: Country-wise distribution of firm-quarters

| Country      | Total firm-quarter | 2015Q2-2015Q4 | 2016Q1-2016Q2 | 2017Q1-2017Q4 | 2018Q1-2018Q4 | 2019Q1-2019Q4 | 2020Q1-2020Q4 |
|--------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Slovenia     | 12                 | 0             | 0             | 4             | 4             | 4             | 0             |
| Spain        | 77                 | 9             | 12            | 12            | 16            | 14            | 14            |
| Sweden       | 837                | 9             | 40            | 4             | 166           | 289           | 254           |
| Switzerland  | 210                | 31            | 4             | 12            | 28            | 14            | 44            |
| Taiwan       | 2,229              | 255           | 349           | 373           | 421           | 471           | 360           |
| Thailand     | 957                | 71            | 100           | 108           | 120           | 290           | 268           |
| Turkey       | 340                | 26            | 12            | 43            | 75            | 85            | 79            |
| UAE          | 118                | 12            | 16            | 20            | 24            | 24            | 22            |
| United Kingdom | 158            | 18            | 24            | 24            | 28            | 40            | 24            |
| USA          | 41,685             | 3,060         | 5,876         | 7,452         | 8,060         | 8,978         | 8,259         |
| Vietnam      | 8                  | 3             | 0             | 0             | 0             | 4             | 4             |
| Total        | 80,454             | 6,592         | 10,879        | 13,422        | 15,122        | 18,144        | 16,295        |

#### Panel D: Pairwise correlations

| Variables   | (1) Tobins_Q | (2) ESG     | (3) ENV_ESG  | (4) GOV_ESG  | (5) SOC_ESG  | (6) PPE     | (7) SIZE    | (8) GROWTH | (9) LEV     | (10) INTAN  | (11) RD     | (12) GROWTH | (13) CAPEX  | (14) GOV_EFF | (15) VOICE  | (16) IFRS   |
|-------------|--------------|-------------|--------------|--------------|--------------|-------------|-------------|------------|-------------|-------------|------------|-------------|-------------|-------------|-------------|------------|-------------|
| (1) Tobins_Q | 1.000        |             |              |              |              |             |             |            |             |             |            |             |             |             |             |             |
| (2) ESG     | -0.106       | 1.000       |              |              |              |             |             |            |             |             |            |             |             |             |             |             |
| (3) ENV_ESG | -0.214       | 0.872       | 1.000        |              |              |             |             |            |             |             |            |             |             |             |             |             |
| (4) GOV_ESG | -0.082       | 0.680       | 0.412        | 1.000        |              |             |             |            |             |             |            |             |             |             |             |             |
| (5) SOC_ESG | -0.024       | 0.902       | 0.743        | 0.418        | 1.000        |             |             |            |             |             |            |             |             |             |             |             |
| (6) PPE     | -0.171       | 0.054       | 0.128        | 0.085        | 0.009        | 1.000       |             |            |             |             |            |             |             |             |             |             |
| (7) SIZE    | -0.453       | 0.391       | 0.503        | 0.180        | 0.293        | 0.100       | 1.000       |             |            |             |            |             |             |             |             |             |
| (8) GROWTH  | 0.005        | 0.033       | 0.035        | 0.022        | 0.022        | 0.010       | 0.034       | 1.000      |             |             |            |             |             |             |             |             |
| (9) LEV     | 0.020        | 0.059       | 0.060        | 0.051        | 0.057        | 0.229       | 0.049       | 0.002      | 1.000       |             |            |             |             |             |             |             |
| (10) INTAN  | 0.001        | 0.041       | 0.002        | 0.005        | 0.058        | 0.300       | 0.061       | 0.015      | 0.139       | 1.000       |             |             |             |             |             |             |
| (11) RD     | 0.214        | -0.024      | -0.083       | -0.031       | 0.017        | -0.246      | -0.133      | -0.013     | -0.195      | 0.000       | 1.000       |             |             |             |             |             |
| (12) GROWTH | 0.005        | 0.033       | 0.035        | 0.022        | 0.022        | 0.010       | 0.034       | 0.002      | 0.015       | 0.015       | 0.015      | 1.000       |             |             |             |             |
| (13) CAPEX  | -0.006       | 0.022       | 0.032        | 0.052        | 0.008        | 0.430       | 0.005       | 0.052      | -0.070      | -0.043      | 0.052      | 0.000       | 1.000       |             |             |             |
| (14) GOV_EFF | 0.168       | 0.078       | 0.030        | 0.104        | -0.045       | -0.250      | 0.015       | -0.007     | 0.056       | 0.008       | 0.015      | -0.030      | 0.000       | 1.000       |             |             |
| (15) VOICE  | 0.178        | 0.148       | 0.072        | 0.037        | -0.001       | -0.239      | 0.013       | 0.030      | 0.092       | -0.094      | 0.013      | -0.013      | 0.737       | 0.000       | 1.000       |             |
| (16) IFRS   | -0.121       | 0.170       | 0.192        | 0.066        | 0.173        | 0.074       | 0.005       | 0.008      | 0.108       | -0.162      | 0.008      | 0.041       | -0.077      | 0.109       | 1.000       |             |

**Note:** Panel A presents the details of the sample composition. Panel B presents the descriptive statistics for the ROE, firm characteristics, and country-level characteristics. All the variables are defined in Appendix A. All continuous variables are winsorized at the 1st and 99th percentile. Panel C shows the country-wise distribution of firm-quarters. In Panel D, all reported correlations are statistically significant at the 1% level with the exception of the correlations in bold.
where $i$, $t$, and $c$ denote firm, year-quarter, industry, and country, respectively; $Tobin\text{'s Q} = \text{measures of firm performance;}$ 

\[ Tobin\text{'s Q}_i = \alpha + \beta_1 COVID_t + \beta_2 ESG_{i,2019} + \beta_3 COVID_t \times ESG_{i,2019} + \gamma \text{Firm Controls}_{i,t-4} + \epsilon \]  

(1)

where $\alpha$, $\beta_1$, $\beta_2$, $\beta_3$, $\gamma$, and $\epsilon$ are the intercept, coefficients, and error term, respectively. $Tobin\text{'s Q}$ is the firm-value spanning 2015Q2 to 2020Q4 on a dummy variable which takes the value one during the pandemic period (January 2020–December 2020), interacted with ESG scores measured prior to crisis along with various controls.

The specification helps in analyzing the impact of COVID-19 pandemic on firm-level behavior in which we compare the market value of firms before and after the onset of the COVID-19 conditional on their ESG and other controls. Our main goal is to analyze the role of corporate social responsibility in amplifying or dampening the negative impact of the epidemic on firm value. To this end, we evaluate ESG scores before the pandemic to ensure that changes in firm value do not impact ESG scores during a pandemic.

Second, we investigate the external financing, capital investment, and growth channels of firms during COVID-19 to analyze the possible sources of better firm performance of high-CSR firms. Following Lins et al. (2017), we estimate the following difference-in-differences estimation model with continuous treatment:

\[ Y_{it} = \alpha + \beta_1 COVID_t + \beta_2 ESG_{i,2019} + \beta_3 COVID_t \times ESG_{i,2019} \]

\[ + \gamma \text{Firm Controls}_{i,t-4} + \epsilon \]

(2)

where $\alpha$, $\beta_1$, $\beta_2$, $\beta_3$, $\gamma$, and $\epsilon$ are the intercept, coefficients, and error term, respectively; $Y_{it}$ is the debt (LEV) for the external financing channel and capital expenditure (CAPEX) for the investment opportunity channel; $COVID_t$ = quarterly dummy variable, coded 1 for the post-pandemic period and otherwise 0; $ESG_{i,2019}$ is a proxy for CSR, measured at the 2019 year-end value of the respective ESG score (ESG, ENV ESG, GOV ESG, SOC ESG); Firm Controls is a vector of firm-level controls as explained earlier; $\epsilon$ is the country fixed effects; $\epsilon$ is the firm fixed effects.

Third, to investigate country-level channels through which high-CSR firms achieve better firm performance during COVID-19, we estimate the following difference-in-differences estimation model:

\[ Tobin\text{'s Q}_i = \alpha + \beta_1 COVID_t + \beta_2 ESG_{i,2019} + \beta_3 COVID_t \times ESG_{i,2019} + \beta_4 Z_c \times COVID_t + \beta_5 Z_c \times ESG_{i,2019} + \beta_6 Z_c \times \epsilon_{i,t} \]

where $Z_c$ is the IFRS adoption variable (IFRS) for the transparency channel, voice and accountability variable (VOICE) for the freedom of expression channel, and country-level government effectiveness variable (GOV_EFF) for the governance channel. Detailed definitions of all the variables are shown in Appendix A.

4 | EMPIRICAL RESULTS

This section discusses the empirical results on firm performance and ESG of firms during COVID-19 and the role of various firm-level and country-level channels associated with it.

4.1 | Baseline results

Figure 1 depicts the mean Tobin’s $Q$ in the pre-COVID-19 (2015Q2-2019Q4) and post-COVID-19 (2020Q1-2020Q4) periods for high and low ESG firms. High ESG (high ESG) firms are the firms whose combined score of environmental, social, and governance activities is greater (less) than the mean in 2019. The solid black line (dotted black line) shows the trend in Tobin’s $Q$ of high ESG firms (low ESG firms). We measure ESG firms in comparison to low-ESG firms. This trend indicates that, on average, firm performance declined during COVID-19. However, the decline in firm performance is lower for the high-ESG firms in comparison to low-ESG firms. This trend indicates that, on average, firm performance declined during COVID-19. To test the association between COVID-19, firm performance, and ESG more formally, we estimate Equation (1) and report the result of baseline regression in Table 2. In our unbalanced panel data set, using lagged control variables reduces firm-quarter observations to 61,699. Column (1) presents the estimation result of firm performance and the ESG score variable constructed using the combined ESG score as a measure of CSR during COVID-19. Note that the main effects of ESG scores will be subsumed by firm-fixed effects (hence omitted) as the ESG scores are measured once for each firm. The variable of interest is the interaction between COVID-19 and ESG (COVID_19*ESG), which is positive and statistically significant (0.00126), suggesting that

![Figure 1: Displays the average Tobin's Q from 2015Q2 to 2020Q4 for all firms, high ESG firms, and low ESG firms. The description of all variables is presented in Appendix A.](image-url)
the COVID-19-induced reduction in firm performance is lower for firms with high-CSR. Column (2), Column (3), and Column (4) present the estimation result of Equation (1) with an ESG variable constructed using the environmental, social, and governance scores, respectively, as measures of CSR (ENV_ESG, GOV_ESG, and SOC_ESG). The interaction between COVID-19 and various ESG variables is positive and statistically significant in all three columns, indicating that the COVID-19-induced reduction in firm performance is lower for firms with high environmental, social, and governance scores. Column 2 of Table 2 clearly shows that the drop in firm value is greater for the firms with lower pre-COVID-19 ESG scores. Economically, the coefficient estimates suggest a 0.123 unit decrease in the firm value for firms with no ESG scores compared to firms with an ESG score of 97.61 (0.123/0.00126), which indicates no reduction. As a result, based on the ESG scores of the firms prior to the pandemic, our findings could provide a range of potential declines in firm value, on average, or 1% of the mean of Tobin’s q.

Our findings support the stakeholder theory and are consistent with the findings of Arora et al. (2021), Yi et al. (2021), which show that during an economic downturn, the trust that is built between a firm and its stakeholders pay off through improved firm performance.

### 4.2 | Firm-level channels

First, to test the capital investment channel of high ESG firms to explore the possible drivers of higher firm performance during COVID-19, we estimate Equation (2) considering capital expenditure as the dependent variable and report the regression results in Table 3. Column (1), Column (2), Column (3), and Column (4) present the estimation result of Equation (2) with an ESG variable constructed using the overall ESG performance, environmental, social, and governance scores, respectively, as measures of CSR (ESG, ENV_ESG, GOV_ESG, and SOC_ESG). Our variable of interest is the interaction between COVID-19 and the respective ESG score. The interaction term (COVID_19*ESG) is consistently positive in all four columns. This finding indicates that high-CSR firms are better positioned to take advantage of investment possibilities during COVID-19. The estimates suggest that a unit increase in ESG score is associated with a 0.003% (Column 1) increase in capital investment during COVID-19. Economically speaking, this indicates that a rise in ESG scores measured in 2019 by one standard deviation (20.727) is associated with a relative rise in CAPEX of 0.00078 (0.000038*20.727) percentage points, or roughly 2.7% (0.00078/0.029) of the average CAPEX of our sample during COVID-19. Given the importance of social trust in obtaining efficient investment opportunities during the crisis, our findings show that higher firm performance for higher-ESG firms during COVID-19

| Variables              | (1) Tobins_Q       | (2) Tobins_Q       | (3) Tobins_Q       | (4) Tobins_Q       |
|------------------------|--------------------|--------------------|--------------------|--------------------|
| COVID_19               | −0.123*** (0.0155) | −0.118*** (0.0104) | −0.0831*** (0.0160) | −0.0965*** (0.0143) |
| COVID_19*ESG           | 0.00126*** (0.000305) |                     |                    |                    |
| COVID_19*ENV_ESG       |                     | 0.00144*** (0.000215) |                    |                    |
| COVID_19*GOV_ESG       |                     |                    | 0.000331 (0.000283) |                    |
| COVID_19*SOC_ESG       |                     |                    |                    | 0.000645** (0.000268) |
| SIZE                   | −0.226*** (0.0123) | −0.222*** (0.0123) | −0.228*** (0.0123) | −0.228*** (0.0123) |
| PPE                    | 0.203*** (0.0628)  | 0.223*** (0.0629)  | 0.194*** (0.0628)  | 0.197*** (0.0628)  |
| INTAN                  | −0.269*** (0.0887) | −0.273*** (0.0887) | −0.263*** (0.0887) | −0.265*** (0.0887) |
| LEV                    | 0.494*** (0.0319)  | 0.493*** (0.0319)  | 0.496*** (0.0319)  | 0.494*** (0.0319)  |
| RD                     | 0.0320 (0.0205)    | 0.0301 (0.0205)    | 0.0285 (0.0205)    | 0.0319 (0.0205)    |
| Constant               | 3.383*** (0.113)   | 3.340*** (0.113)   | 3.403*** (0.113)   | 3.398*** (0.113)   |
| Firm-level controls?   | Yes                | Yes                | Yes                | Yes                |
| Country FE?            | Yes                | Yes                | Yes                | Yes                |
| Firm FE?               | Yes                | Yes                | Yes                | Yes                |
| Industry-year quarter FE? | Yes          | Yes                | Yes                | Yes                |
| Observations           | 61,699             | 61,699             | 61,699             | 61,699             |
| $R^2$                  | 0.888              | 0.888              | 0.888              | 0.888              |

Note: Table 2 represents the results of estimating Equation (1) using the fixed effect panel estimation method of firm performance, COVID-19, and ESG. All variables are defined in Appendix A. All regressions are controlled for firm-level variables, and standard errors are clustered by firm. Coefficients are presented with standard errors in parenthesis.

***Significance at 1% level.
**Significance at 5% level.
*Significance at 10% level.
TABLE 3  Capital investment

| Variables          | (1) CAPEX          | (2) CAPEX          | (3) CAPEX          | (4) CAPEX          |
|--------------------|-------------------|-------------------|-------------------|-------------------|
| COVID_19           | $-0.00498^{***}$ (0.000456) | $-0.00439^{***}$ (0.000306) | $-0.00282^{***}$ (0.000470) | $-0.00452^{***}$ (0.000422) |
| COVID_19*ESG       | $0.000038^{***}$ (8.97e-06)   |                   |                   |                   |
| COVID_19*ENV_ESG   |                   | $0.000024^{***}$ (6.49e-06) |                   |                   |
| COVID_19*GOV_ESG   |                   |                   | $8.81e-06$ (8.55e-06) |                   |
| COVID_19*SOC_ESG   |                   |                   |                   | $0.000021^{***}$ (8.04e-06) |
| Constant           | $0.0840^{***}$ (0.00333)    | $0.0833^{***}$ (0.00334) | $0.0847^{***}$ (0.00333) | $0.0843^{***}$ (0.00333) |
| Firm-level controls? | Yes               | Yes               | Yes               | Yes               |
| Country FE?        | Yes               | Yes               | Yes               | Yes               |
| Firm FE?           | Yes               | Yes               | Yes               | Yes               |
| Industry-year quarter FE? | Yes | Yes               | Yes               | Yes               |
| Observations       | 61,699            | 61,699            | 61,699            | 61,699            |
| $R^2$              | 0.720             | 0.720             | 0.720             | 0.720             |

Note: Table 3 represents the results of estimating Equation (2) using the fixed effect panel regression model of CAPEX, COVID-19, and ESG. All variables are defined in Appendix A. All regressions are controlled for firm-level variables, and standard errors are clustered by firm. Coefficients are presented with standard errors in parenthesis.

***Significance at 1% level.
**Significance at 5% level.
*Significance at 10% level.
### TABLE 4  Debt financing

| Variables       | (1) LEV                  | (2) LEV                  | (3) LEV                  | (4) LEV                  |
|-----------------|--------------------------|--------------------------|--------------------------|--------------------------|
| COVID_19        | 0.00374** (0.00184)      | 0.00723*** (0.00124)     | 0.0113*** (0.00190)      | 0.00222 (0.00170)        |
| COVID_19*ESG    | 0.000163*** (3.62e-05)   |                          |                          |                          |
| COVID_19*ENV_ESG|                          | 0.000108*** (2.56e-05)   |                          |                          |
| COVID_19*GOV_ESG|                          |                          | 3.33e-06 (3.36e-05)      |                          |
| COVID_19*SOC_ESG|                          |                          |                          | 0.000190*** (3.18e-05)   |
| Constant        | 0.0377*** (0.0134)       | 0.0357*** (0.0135)       | 0.0407*** (0.0134)       | 0.0383** (0.0134)        |
| Firm-level controls? | Yes                     | Yes                     | Yes                     | Yes                     |
| Country FE?     | Yes                      | Yes                     | Yes                     | Yes                     |
| Firm FE?        | Yes                      | Yes                     | Yes                     | Yes                     |
| Industry-year quarter FE? | Yes               | Yes                     | Yes                     | Yes                     |
| Observations    | 61,699                   | 61,699                  | 61,699                  | 61,699                  |
| $R^2$           | 0.895                    | 0.895                   | 0.895                   | 0.896                   |

Note: Table 4 represents the results of estimating Equation (2) using the fixed effect panel regression model Debt, COVID-19, and ESG. All variables are defined in Appendix A. All regressions are controlled for firm-level variables, and standard errors are clustered by firm. Coefficients are presented with standard errors in parenthesis.

***Significance at 1% level.
**Significance at 5% level.
*Significance at 10% level.
is driven by increased capital investment. The findings support Benlemih and Bitar’s (2018) argument that CSR plays an important role in influencing firms’ investment behavior and efficiency during economic downturns, which leads to better firm performance.

Second, to test the external financing channel of high ESG firms to explore the possible drivers of higher firm performance during COVID-19, we estimate Equation (2) considering leverage as the dependent variable and report the regression results in Table 4. Column (1), Column (2), Column (3), and Column (4) present the estimation result of Equation (2) with an ESG variable constructed using the overall ESG performance, environmental, social, and governance scores, respectively, as measures of CSR (ESG, ENV_ESG, GOV_ESG, and SOC_ESG). Our dependent variable is leverage, and the variable of interest is the interaction between COVID-19 and the respective ESG score. The interaction term (COVID_19*ESG) is consistently positive in all four columns, indicating that high-CSR firms obtain more debt finance during COVID-19. A unit increase in ESG score is associated with a 0.016% (column 1) increase in leverage during COVID-19. For firms with high ESG scores prior to the start of the pandemic, this translates into an increase in mean debt levels of 1.2% during COVID-19. Given the importance of the socially responsible behavior of firms in accessing external finance during the crisis, our findings indicate that higher firm performance for high-ESG firms during COVID-19 is channeled through the availability of debt finance. The results support the contention of Cooper and Uzun (2015) that a firm with better stakeholder engagement acquires more debt as the relationship is boosted by social trust.

Finally, to test the sales growth channel of high ESG firms to explore the possible drivers of higher firm performance during COVID-19, we estimate Equation (2) considering sales growth as the dependent variable and report the regression results in Table 5. Column (1), Column (2), Column (3), and Column (4) present the estimation result of Equation (2) with ESG variable constructed using the overall ESG performance, environmental, social, and governance scores, respectively, as measures of CSR (ESG, ENV_ESG, GOV_ESG, and SOC_ESG). Our dependent variable is sales growth, and the variable of interest is the interaction between COVID-19 and the respective ESG score. The interaction term (COVID_19*ESG) is positive and significant at a 10% level only for the combined ESG score presented in Column (1). However, we could not find any statistically significant association between sales growth during COVID-19 and ESG for environmental, social, and governance scores. The result presented in Column 1 is consistent with the findings of Lins et al. (2017) that the firms with better social status attain higher sales growth during the financial crisis.

### Table 5  Sales growth

| Variables               | (1) GROWTH | (2) GROWTH | (3) GROWTH | (4) GROWTH |
|-------------------------|------------|------------|------------|------------|
| COVID_19                | –0.0616*** (0.0122) | –0.0591*** (0.00818) | –0.0555*** (0.0126) | –0.0584*** (0.0113) |
| COVID_19*ESG            | 0.00001* (0.000240) | 1.05e-05 (0.000169) | 6.22e-05 (0.000222) | –5.25e-06 (0.000211) |
| COVID_19*ENV_ESG        |            |            |            |            |
| COVID_19*GOV_ESG        |            |            |            |            |
| COVID_19*SOC_ESG        |            |            |            |            |
| Constant                | 0.0296 (0.0890) | 0.0303 (0.0892) | 0.0313 (0.0889) | 0.0308 (0.0889) |
| Firm-level controls?    | Yes        | Yes        | Yes        | Yes        |
| Country FE?             | Yes        | Yes        | Yes        | Yes        |
| Firm FE?                | Yes        | Yes        | Yes        | Yes        |
| Industry-year quarter FE? | Yes    | Yes        | Yes        | Yes        |
| Observations            | 61.699     | 61.699     | 61.699     | 61.699     |
| $R^2$                   | 0.131      | 0.131      | 0.131      | 0.131      |

Note: Table 5 represents the results of estimating Equation (2) using the fixed effect panel regression model sales growth, COVID-19, and ESG. All variables are defined in Appendix A. All regressions are controlled for firm-level variables, and standard errors are clustered by firm. Coefficients are presented with standard errors in parenthesis.

***Significance at 1% level.
**Significance at 5% level.
*Significance at 10% level.
| Variables          | (1) Tobins_Q     | (2) Tobins_Q     | (3) Tobins_Q     | (4) Tobins_Q     |
|-------------------|------------------|------------------|------------------|------------------|
| COVID_19          | -0.063*** (0.021)| -0.0618*** (0.0147)| -0.0591*** (0.0228)| -0.0505*** (0.0192)|
| GOVT_EFF          | 0.000439 (0.000455) |                |                  |                  |
| COVID_19*ESG      | 0.062*** (0.0571) | 0.376*** (0.0378) | 0.626*** (0.0579) | 0.445*** (0.0524) |
| COVID_19*GOVT_EFF | -0.0972*** (0.0380) | -0.0732*** (0.0282) | -0.0790*** (0.0380) | -0.0492 (0.0332) |
| ESG*GOVT_EFF      | -0.0108*** (0.00110) |                |                  |                  |
| COVID_19*ESG*GOVT_EFF | 0.00163*** (0.000726) |                |                  |                  |
| COVID_19*ENV_ESG  | 0.000514 (0.000335) |                |                  |                  |
| ENV_ESG*GOVT_EFF  | -0.0065*** (0.000783) |                |                  |                  |
| COVID_19*ENV_ESG*GOVT_EFF | 0.00118*** (0.000554) |                |                  |                  |
| COVID_19*GOV_ESG  | 0.000176 (0.000417) |                |                  |                  |
| GOV_ESG*GOVT_EFF  | -0.00926*** (0.00100) |                |                  |                  |
| COVID_19*GOV_ESG*GOVT_EFF | 0.00136** (0.000670) |                |                  |                  |
| COVID_19*SOC_ESG  | 2.26e-05 (0.000381) |                |                  |                  |
| SOC_ESG*GOVT_EFF  | -0.00629*** (0.000955) |                |                  |                  |
| COVID_19*SOC_ESG*GOVT_EFF | 0.000811*** (0.000556) |                |                  |                  |
| Constant          | 5.119*** (0.118) | 5.060*** (0.117) | 5.115*** (0.117) | 5.150*** (0.117) |
| Firm-level controls? | Yes             | Yes             | Yes             | Yes             |
| Country FE?       | Yes             | Yes             | Yes             | Yes             |
| Firm FE?          | Yes             | Yes             | Yes             | Yes             |
| Industry-year quarter FE? | Yes             | Yes             | Yes             | Yes             |
| Observations      | 80,430          | 80,442          | 80,446          | 80,442          |
| R²                | 0.810           | 0.809           | 0.809           | 0.809           |

Note: Table 6 represents the results of estimating Equation (3) using the fixed effect panel regression model of firm performance, COVID-19, GOVT_EFF, and ESG. All variables are defined in Appendix A. All regressions are controlled for firm-level variables, and standard errors are clustered by firm. Coefficients are presented with standard errors in parenthesis.

***Significance at 1% level.
**Significance at 5% level.
*Significance at 10% level.
| Variables                  | (1) Tobins_Q  | (2) Tobins_Q  | (3) Tobins_Q  | (4) Tobins_Q  |
|---------------------------|---------------|---------------|---------------|---------------|
| COVID_19                  | -0.0735*** (0.0225) | -0.0705*** (0.0154) | -0.0388 (0.0247) | -0.0630*** (0.0189) |
| COVID_19*ESG              | 0.000852* (0.000516) | 0.000986*** (0.000378) | -0.00544*** (0.00166) | 0.000560 (0.000432) |
| VOICE                     | 0.795*** (0.122) | 0.181** (0.0804) | 0.872*** (0.121) | 0.521*** (0.111) |
| COVID_19*VOICE            | -0.140*** (0.0196) | -0.105*** (0.0137) | -0.139*** (0.0222) | -0.110*** (0.0156) |
| ESG*VOICE                 | -0.0171*** (0.00235) | 0.00175*** (0.000466) | 7.66e-05 (0.000455) | 0.00146*** (0.000407) |
| COVID_19*ENV_ESG          | 0.00119*** (0.000346) | 0.00119*** (0.000346) | 0.00544*** (0.00166) | 0.00102*** (0.000383) |
| GOV_ESG*VOICE             | 0.0164*** (0.00213) | 0.0164*** (0.00213) | 0.0164*** (0.00213) | 0.0164*** (0.00213) |
| COVID_19*GOV_ESG*VOICE    | 0.000560 (0.000432) | 0.00146*** (0.000407) | 0.00106*** (0.000202) | 0.00102*** (0.000383) |
| SOC_ESG*VOICE             | -0.0106*** (0.00202) | -0.0106*** (0.00202) | -0.0106*** (0.00202) | -0.0106*** (0.00202) |
| COVID_19*SOC_ESG*VOICE    | 7.66e-05 (0.000455) | 0.00544*** (0.00166) | 0.00102*** (0.000383) | 0.00102*** (0.000383) |
| Constant                  | 5.311*** (0.132) | 5.286*** (0.132) | 5.282*** (0.131) | 5.347*** (0.131) |
| Firm-level controls?      | Yes            | Yes            | Yes            | Yes            |
| Country FE?               | Yes            | Yes            | Yes            | Yes            |
| Firm FE?                  | Yes            | Yes            | Yes            | Yes            |
| Industry-year quarter FE? | Yes            | Yes            | Yes            | Yes            |
| Observations              | 80,430         | 80,442         | 80,446         | 80,442         |
| R²                        | 0.810          | 0.809          | 0.809          | 0.809          |

Note: Table 7 represents the results of estimating Equation (3) using the fixed effect panel regression model of firm performance, COVID-19, VOICE, and ESG. All variables are defined in Appendix A. All regressions are controlled for firm-level variables, and standard errors are clustered by firm. Coefficients are presented with standard errors in parenthesis.

***Significance at 1% level.
**Significance at 5% level.
*Significance at 10% level.
| Variables          | (1) Tobins_Q       | (2) Tobins_Q       | (3) Tobins_Q       | (4) Tobins_Q       |
|--------------------|--------------------|--------------------|--------------------|--------------------|
| COVID_19           | −0.184*** (0.0339) | −0.160*** (0.0216) | −0.0967*** (0.0360) | −0.185*** (0.0312) |
| ESG                | 0.0107*** (0.000449) |                    |                    |                    |
| COVID_19*ESG       | 0.00211*** (0.000732) |                    |                    |                    |
| COVID_19*IFRS      | 0.213*** (0.0794)  | 0.205*** (0.0574)  | 0.148* (0.0785)    | 0.185** (0.0723)   |
| ESG*IFRS           | −0.00398*** (0.000910) |                    |                    |                    |
| COVID_19*ESG*IFRS  | −0.00260* (0.00151) |                    |                    |                    |
| ENV_ESG            |                    | 0.00615*** (0.000330) |                    |                    |
| COVID_19*ENV_ESG   |                    | 0.00180*** (0.000515) |                    |                    |
| ENV_ESG*IFRS       |                    | −0.00266*** (0.000693) |                    |                    |
| COVID_19*ENV_ESG*IFRS |                | −0.00300*** (0.00116) |                    |                    |
| GOV_ESG            |                    |                    | 0.00214*** (0.000366) |                    |
| COVID_19*GOV_ESG   |                    | −0.000618 (0.000669) |                    |                    |
| GOV_ESG*IFRS       |                    | 0.00105 (0.000808)  |                    |                    |
| COVID_19*GOV_ESG*IFRS |                | −0.000363 (0.00139) |                    |                    |
| SOC_ESG            |                    |                    |                    | 0.0108*** (0.000389) |
| COVID_19*SOC_ESG   |                    |                    |                    | 0.00206*** (0.000642) |
| SOC_ESG*IFRS       |                    |                    | −0.00527*** (0.000789) |                    |
| COVID_19*SOC_ESG*IFRS |                | −0.00211* (0.00130) |                    |                    |
| Constant           | 3.841*** (0.0385)  | 3.970*** (0.0403)  | 3.576*** (0.0381)  | 3.869*** (0.0381)  |
| Firm-level controls? | Yes               | Yes               | Yes               | Yes               |
| Country FE?        | Yes               | Yes               | Yes               | Yes               |
| Firm FE?           | Yes               | Yes               | Yes               | Yes               |
| Industry-year quarter FE? | Yes       | Yes               | Yes               | Yes               |
| Observations       | 61,656            | 61,656            | 61,656            | 61,656            |
| $R^2$              | 0.398             | 0.395             | 0.391             | 0.401             |

Note: Table 6 represents the results of estimating Equation (3) using the fixed effect panel regression model of firm performance, COVID-19, IFRS, and ESG. All variables are defined in Appendix A. All regressions are controlled for firm-level variables, and standard errors are clustered by firm. Coefficients are presented with standard errors in parenthesis.

***Significance at 1% level. **Significance at 5% level. *Significance at 10% level.
government system and voice of expression might successfully control the interruption during COVID-19 and refocus its attention on regular operations, thus indirectly facilitating firm performance.

Further, to test the impact of IFRS adoption on the association between COVID-19, firm performance, and ESG, we estimate Equation (3) and report the regression results in Table 8. Our variable of interest is the interaction between COVID-19, ESG, and IFRS. The interaction term (COVID_19*ESG*IFRS) is consistently negative for all three measures of CSR. This result suggests that the positive association between CSR and firm performance during COVID-19 is more pronounced among the firms belonging to the countries that have not adopted IFRS. Our findings imply that IFRS adopters generally emphasize stakeholder relationships through enhanced transparency and accounting integrity, and hence they benefit less from CSR activities than non-IFRS adopters during COVID-19.

4.4 Test of robustness

First, we test the robustness of our main results using another accounting measure of firm performance: ROE is defined as the ratio of total net income to total shareholders' equity for the firm i. The estimation of Equation (1) using ROE is in line with our baseline estimation results. Untabulated results support our main proposition that the social responsibility of firms improves their performance in times of crisis.

Second, we conduct a placebo test to ensure that our results are not driven by other events during COVID-19. We consider the entire pre-pandemic period (2015Q2-2019Q) as a placebo estimation window and show four pseudo shocks in 2016, 2017, and 2018 respectively. We re-estimate Equation (1) using three different pseudo shocks (i) from 2016Q1 to 2016Q4, (ii) from 2017Q1 to 2017Q4, and (iii) from 2018Q1 to 2018Q4 and the rest of the sample period as a non-placebo period. The un-tabulated results are statistically insignificant, suggesting that the association between CSR and firm performance does not follow an artificially imposed pandemic period.

Third, we repeat our estimation in Equation (1) using a subsample analysis. We exclude the data from the US and China, which make up most of our sample. Untabulated results are in line with our baseline estimation.

5 CONCLUSION

In this study, we examine the impact of social trust on firm performance during COVID-19, coupled with severe operational disruptions. Consistent with stakeholder theory, we find a positive association between CSR and firm performance during COVID-19. We also analyze various firm-level channels through which CSR influences firm performance. We hypothesize and find that a firm with higher stakeholder engagement can access more debt because social trust boosts debt financing, which improves firm performance during COVID-19. We also observe that high-CSR firms are able to achieve better firm performance through contemporaneous growth in capital expenditure and improved sales. Our research indicates that CSR makes it easier to take advantage of profitable investment options and increases access to debt financing, allowing firms to report better performance amid COVID-19.

Further, we analyze various country-level channels that possibly moderate the association between firm performance and CSR during COVID-19. Consistent with the substitution effect of CSR and IFRS, we find that the positive association between CSR and firm performance during COVID-19 is more pronounced among the non-adopters of IFRS with a lower level of accounting quality. Also, the positive association between firm performance and CSR during COVID-19 is more pronounced among the firms belonging to countries with better government effectiveness and voice of expression. Our findings align with the stakeholder theory indicating that when the overall level of trust in firms and markets falls during an economic crisis, the trust established between a firm and its stakeholders via socially responsible behavior pays off through better firm performance.

Our findings on the impact of social trust on firm performance should be interpreted with the following limitations in mind. First, we rely on earlier literature that suggests a connection between ESG and social trust in order to create our proxy for social trust at the firm level. However, there may be several other factors that firms can use to build social trust other than ESG, such as brand equity, brand identity, etc. By examining these factors, future studies could examine the effects of social trust in a broader context. Second, we focus on how social trust impacts firm performance; however, other firm-level ethical factors such as ethical leadership (Zhu et al., 2014), organizational culture (Onken, 1999), and gender diversity (Dwyer et al., 2003) may also impact the firm performance. Future studies with access to detailed data can improve our understanding of how these factors affect business performance during COVID-19. Third, the literature focuses on cross-country variations in the association between social trust and firm performance based on various country-level factors such as national culture (Gällén & Peraita, 2018), institutional weaknesses (Cahan et al., 2016), and economic uncertainties (Rjiba et al., 2020). The current study only looks at country-level governance and accounting quality. Future research should look into how other country-level factors (risk appetite, access to finance) moderate the association between social trust and firm performance amid crises. Finally, our sample distribution of observations is uneven across countries, and that could lead to a sample selection bias. Our results should be interpreted cautiously in light of this limitation.

This study offers a few important managerial and policy implications on the role of social trust in firm performance during COVID-19. First, our findings suggest that, while making the decisions on investment in social capital, the managers should take into account the positive effect of social trust on firm performance when the economy experiences negative shocks. Second, the findings suggest that the impact of social trust on firm performance is higher among the countries with better governance. As a result, managers should consider the importance of the external governance environment to which the
firm belongs while evaluating the CSR activities of the firm. Our study shows the resilience of socially responsible firms in the face of exogenous shocks like COVID-19, highlighting how improved corporate governance can increase profits (or reduce losses) for investors. Finally, by highlighting the beneficial effect of social trust on company performance during a crisis, our findings underscore the advantages of funding CSR initiatives and may have major policy ramifications for regulators and public officials internationally.

DATA AVAILABILITY STATEMENT
The data that support the findings of this study are available from third party [Refinitiv Eikon database] and world bank. Restrictions apply to the availability of these data, which is based on end user license agreement and prohibits any type of data redistribution. Data are available from the authors with the permission of third party [Refinitiv Eikon database].

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ENDNOTES
1 We thank an anonymous reviewer for this input.
2 See Refinitiv data directory for more details.
3 For example, Ahmed et al. (2013).
4 See online (https://www.ifrs.org).
5 See additional Appendix A.
6 See Appendix B.
7 We thank the anonymous reviewer for the suggestion to do multiple pseudo shocks to ensure robustness of our results.
8 See Appendix C.

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### APPENDIX A: ALTERNATIVE MEASURE OF FIRM PERFORMANCE

| Variables       | (1) ROE       | (2) ROE       | (3) ROE       | (4) ROE       |
|-----------------|---------------|---------------|---------------|---------------|
| COVID_19        | -0.0102*** (0.00377) | -0.00786*** (0.00251) | -0.00996** (0.00397) | -0.00978*** (0.00349) |
| ESG             | -0.000245** (0.000114) |              |               |               |
| COVID_19*ESG    | 9.28e-05*** (7.63e-05) |              |               |               |
| SIZE            | -0.00391 (0.00309) | -0.00409 (0.00307) | -0.00517* (0.00306) | -0.00396 (0.00307) |
| PPE             | -0.0236 (0.0144) | -0.0233 (0.0144) | -0.0243* (0.0144) | -0.0238* (0.0144) |
| INTAN           | 0.0125 (0.0218) | 0.0126 (0.0218) | 0.0139 (0.0217) | 0.0127 (0.0217) |
| LEV             | -0.0190** (0.00869) | -0.0193** (0.00869) | -0.0191** (0.00869) | -0.0190** (0.00869) |
| RD              | 0.00458 (0.00578) | 0.00461 (0.00579) | 0.00374 (0.00578) | 0.00449 (0.00578) |
| ENV_ESG         |              | -0.000197** (8.70e-05) |               |               |
| COVID_19*ENV_ESG| 5.22e-05*** (5.43e-05) |              |               |               |
| GOV_ESG         |              | 5.32e-06 (7.49e-05) |               |               |
| COVID_19*GOV_ESG|              | 5.39e-05* (7.17e-05) |               |               |
| SOC_ESG         |              |               | -0.000241*** (9.27e-05) |               |
| COVID_19*SOC_ESG|              |               | 8.13e-05* (6.72e-05) |               |
| Constant        | 0.101*** (0.0278) | 0.0987*** (0.0279) | 0.103*** (0.0278) | 0.102*** (0.0278) |
| Firm-level controls? | Yes | Yes | Yes | Yes |
| Country FE?     | Yes | Yes | Yes | Yes |
| Firm FE?        | Yes | Yes | Yes | Yes |
| Industry-year quarter FE? | Yes | Yes | Yes | Yes |
| Observations    | 62,291 | 62,287 | 62,291 | 62,287 |
| $R^2$           | 0.730 | 0.730 | 0.730 | 0.730 |

Note: This table represents the results of estimating Equation (1) using the fixed effect panel regression model of firm performance, COVID-19, and ESG. All variables are defined in Appendix A. All regressions are controlled for firm-level variables, and standard errors are clustered by firm. Coefficients are presented with standard errors in parenthesis. ***, **, and * denote significance at a 1, 5, and 10% level.
### Appendix B: Placebo Estimation

| Variables      | (1)         | (2)         | (3)         |
|----------------|-------------|-------------|-------------|
| Tobins_Q       |             |             |             |
| PLACEBO2016    | -0.0148 (0.0210) |             |             |
| PLACEBO2016*ESG| -0.00141 (0.000372) |             |             |
| PLACEBO2017    | 0.0112 (0.0161) |             |             |
| PLACEBO2017*ESG| -6.24e-05 (0.000300) |             |             |
| PLACEBO2018    | 0.0891*** (0.0139) |             |             |
| PLACEBO2018*ESG| -0.000821* (0.000271) |             |             |
| Constant       | 6.650*** (0.130) | 6.246*** (0.130) | 6.239*** (0.127) |
| Firm-level controls? | Yes | Yes | Yes |
| Country FE?    | Yes | Yes | Yes |
| Firm FE?       | Yes | Yes | Yes |
| Industry-year quarter FE? | Yes | Yes | Yes |
| Observations   | 45,617 | 45,617 | 45,617 |
| $R^2$          | 0.915 | 0.915 | 0.915 |

Note: This table represents the results of estimating Equation (1) using the fixed effect panel regression model of firm performance, PLACEBO, and ESG. All variables are defined in Appendix A. All regressions are controlled for firm-level variables, and standard errors are clustered by firm. Coefficients are presented with standard errors in parenthesis. ***, **, and * denote significance at a 1, 5, and 10% level.
| Variables | (1)        | (2)        | (3)        | (4)        |
|-----------|------------|------------|------------|------------|
| Tobins_Q  |            |            |            |            |
| COVID_19  | -0.0656*** | -0.0656*** | -0.0272**  | -0.0579*** |
| ESG       | 7.56e-05   | 0.000363   |            |            |
| COVID_19*ESG | 0.000780*** | 0.000780*** |            |            |
| ENV_ESG   | 0.000342   | (0.000279) |            |            |
| COVID_19*ENV_ESG | 0.000804*** | 0.000804*** |            |            |
| GOV_ESG   |            |            |            |            |
| COVID_19*GOV_ESG | 7.91e-05   | (0.000237) |            |            |
| SOC_ESG   |            |            |            | 1.16e-07   |
| COVID_19*SOC_ESG | 0.00624*** | (0.000215) |            |            |
| Constant  | 3.153***   | 3.155***   | 3.148***   | 3.152***   |
| Firm-level controls? | Yes        | Yes        | Yes        | Yes        |
| Country FE? | Yes        | Yes        | Yes        | Yes        |
| Firm FE?  | Yes        | Yes        | Yes        | Yes        |
| Industry-year quarter FE? | Yes        | Yes        | Yes        | Yes        |
| Observations | 25,885    | 25,885    | 25,885    | 25,885    |
| $R^2$     | 0.920      | 0.920      | 0.920      | 0.920      |

Note: This table represents the results of estimating Equation (1) using the fixed effect panel regression model of firm performance, COVID-19, and ESG. All variables are defined in Appendix A. All regressions are controlled for firm-level variables, and standard errors are clustered by firm. Coefficients are presented with standard errors in parenthesis.

*** Significance at 1% level.
** Significance at 5% level.
* Significance at 10% level.
### APPENDIX D: VARIABLE DEFINITION

| Variable   | Description                                                                                                                                 |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| COVID-19   | Quarterly dummy variable, coded 1 for the post-pandemic period, otherwise 0                                                                 |
| Tobin’s Q  | The ratio of the market value of the firm to its book value.                                                                                   |
| ESG SCORE  | Combined Environmental, social and governance score of a firm by Refinitiv Eikon database                                                 |
| GOV SCORE  | Corporate governance and corporate behavior score of a firm by Refinitiv Eikon database                                                     |
| SOC SCORE  | Human capital, product liability, stakeholder opposition, and social opportunities scores of a firm by Refinitiv Eikon database               |
| ENV SCORE  | Climate change, natural capital, pollution and waste, and environmental opportunities scores of a firm by Refinitiv Eikon database           |
| CAPEX      | Capital expenditure scaled by total assets                                                                                                  |
| LEV        | Total debt scaled by total assets.                                                                                                          |
| RD         | Research and development expense scaled by the sales                                                                                         |
| SIZE       | Natural log of total assets                                                                                                                 |
| PPE        | Property, plant, and equipment scaled by total assets                                                                                         |
| INTAN      | Intangible assets scaled by total assets                                                                                                      |
| GROWTH     | Sales in year \(t\) minus sales in year \(t - 1\), divided by sales in year \(t - 1\) (Gallemore and Labro 2015)                               |
| IFRS       | An indicator variable equal to one if the country adopted IFRS in the pre-COVID period, zero otherwise                                          |
| GOV_EFFE   | Reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. |
| VOICE      | Reflects perceptions of the extent to which a country’s citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. |