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Abstract

We investigate the effects of (traditional and new social) media disclosure of information on “Corporate Social Irresponsibility” conducts on firm debt contracting. Using a novel dataset and syndicated loans data, we find that negative media attention has a significant and positive effect on bank loan costs. The result is robust to endogeneity concerns and different considered measures of the dependent variable. We as well analyze the role of the borrower reputation and of the lending relationship. In particular, we show that the impact of negative media attention is smaller in presence of prior lending relationships between the lead arranger and the borrower, while stronger if misconducts concern borrowers with high Corporate Social Responsibility (CSR) reputation.

Keywords: loan contracting, corporate social responsibility, negative media attention

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G21 (Banks • Depository Institutions • Micro Finance Institutions • Mortgages)

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1. Introduction

Corporate social responsibility (CSR) is something desirable from a social point of view since responsible firms internalize effects that their conduct has on stakeholders (local communities, workers, consumers, suppliers) and have superior environmental practices, job relationships and corporate governance.¹ However, we will not see its further development if corporate responsibility is not as well profitable, or if responsible firms cannot survive and prosper in the competitive race. The identification of links that can make corporate responsibility profitable or not is therefore a research topic of extreme interest in the economic literature.

In principle, CSR implies costs of raising satisfaction of different groups of stakeholders (ie., higher benefits for workers, care for the environment and local communities, etc.) that can be compensated by several potential benefits (ie., higher productivity of workers, lower risk of conflicts with stakeholders, leadership in environmental friendly innovation, etc.).² The literature on corporate responsibility and corporate performance finds mixed evidence showing that costs and potential benefits of CSR stance tend to compensate each other. Alexander and Buchholz (1978) show that there is not any significant relationship between risk adjusted performance and CSR. Cochran and Wood (1987) show that the average age of corporate assets is strongly correlated with CSR and, once this variable is included as control in their model, no correlation is found between CSR and financial performance. On the other side, Lioui et al. (2018) find that the CSR concern risk factor is properly priced in US stocks, low-CSR firms are more exposed to such risk and face a higher cost of equity. McGuire et al.

¹ A standard definition of corporate social responsibility comes from the EU Commission (2001) that views it as “a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis”. From a quantitative point of view CSR implies a departure from a straightforward profit maximisation approach due to the integration of the interests of various stakeholder groups into the corporate objective function. In this sense with CSR companies internalize negative externalities that their activity may create on some of them.

² Channels through which higher CSR can increase workers’ productivity are efficiency wages (see Stiglitz, 1984; Salop, 1979, Malcomson, 1981 and Gong and Grundy, 2019 among others) and intrinsic motivations (Deci and Ryan, 1985). On the nexus between CSR and stakeholder risk see (Freeman, 1983) among others.

(1988) show that real and financial corporate performance can predict CSR and find that different measures of risk are able to explain a significant portion of CSR variability across firms.

Our paper contributes to this literature by investigating an additional channel through which the positive effect of corporate social responsibility on corporate performance may operate. More specifically, we look at the reverse side of this relationship investigating whether media reporting low CSR conducts may impact on conditions that negatively affect corporate performance. To this purpose, with our research hypothesis we wonder whether lenders charge higher spreads on loans of borrowers that are more exposed to negative media attention on CSR misconducts, anticipating that this factor makes them riskier.

There are different reasons why this should be the case. Firms with a low level of corporate social responsibility are more exposed to stakeholder risk, have higher probability to face litigation and conflicts with regulators (Freeman, 1983) with direct negative effects on their financial conditions and indirect negative effects through weakened reputation (Guiso, Sapienza and Zingales, 2006; Graham, Li and Qiu, 2008), lower future performance (Murphy, Shrieves and Tibbs, 2009) and reduced resistance to financial crisis shocks (Lins et al., 2016). For this reason, higher idiosyncratic risk generated by low CSR will be incorporated in price premiums. Furthermore, banks are likely to be more cautious when dealing with firms with corporate social concerns. The literature shows that dealing with firms with low CSR levels could affect the reputation of the bank itself (Thompson and Cowton, 2004; Chava, 2014). If the nexus between CSR and risk outlined by these empirical contributions is robust, lenders should take it into account by charging a higher financing cost to borrowers more exposed to CSR negative media attention.

Our paper provides new insights in the literature investigating how corporate responsibility is measured, and perception of corporate SR reputation is affected, by new information sources.

From this point of view, we consider that corporate responsibility is not an experience good and, as such, it is subject to the standard problems of asymmetric information that characterize many economic relationships (such as those between borrower and lender, employer and job applicant, etc.). In a world where new media and web sources play an increasingly dominant role what matters is not just the CSR score produced by rating agencies, but the perception and interpretation of it by investors and the general public.

By joining these two lines of research we therefore argue that negative media attention on CSR may significantly affect corporate risk and, in turn, the cost of loan. Our paper is in this respect an original contribution to two different strands of the literature investigating respectively the nexus between corporate misconducts and loan conditions, and the role and effects of new media sources on economic variables.

In the first literature field Goss and Roberts (2011) show that lenders charge higher interest rates to firms with low CSR, while they are indifferent to CSR concerns of high quality firms. Bae et al. (2010) observe that environmental concerns are correlated with a higher cost of debt and lower credit ratings. Graham et al. (2001) find that disclosure of environmental information has a significant impact on bond ratings. El Ghouli et al. (2011) show that better CSR scores are associated with cheaper equity financing costs, while participation in tobacco and nuclear power industries increases corporate cost of equity.

In our paper we innovate with respect to these contributions since we do not use a level of corporate social responsibility entirely determined by the judgement of experts (such as KLD measures), but the expert-evaluated score of negative media attention that includes also the new web sources and aims to measure and evaluate the perceptions of the people using any kind of media.

Analyzing the role of the media in this context is particularly interesting. By monitoring firms, media warrants public attention and amplifies the consequences of firm misconducts

(Hoffman and Ocasio, 2001), shape public opinion (Gamson and Modigliani, 1989) and influence corporate board behavior.

The market for production of news after the entry of new web sources is a complex phenomenon subject to in-depth investigation in the current literature. The strong competition in order to capture the largest possible audience stimulates media to produce as fast as possible news in line with the interest of the public (Patriotta and Gruber, 2015, Davis, 1971). Along this line, Clayman and Reisner (1998) argue that editors have preferences for slightly favourable assessments over both the “good” and the “bad” extremes. On the other hand, it is also important to understand how stakeholders react to negative news. Rabin and Schrag (1999) show that cognitive bias leads to misinterpret news supporting previous beliefs, while Lord et al. (1979) find that strong opinions lead to approve evidence in line with and reject evidence against such beliefs.

The existing literature shows that media are able to mitigate information asymmetries and shape different financial aspects. Tetlock et al. (2008) show that media contents hold otherwise hard-to-quantify information on corporate fundamentals that can improve forecasts on earnings and stock returns. Fang and Peress (2009) find that media are able to alleviate information asymmetries, even if the news are not genuine, showing that absence of media coverage leads stocks to earn higher returns with respect to stocks with high media coverage. Kolbel et al. (2017) find that negative media attention on CSI conducts increases financial risk measured by credit default swaps.

Our research brings several contributions to the literature. First, we identify a new channel through which corporate social misconducts affect corporate performance in the new competitive scenario in which reputation is affected by media attention including the novel and less thoroughly investigated web sources and social networks. We show that borrowers with higher negative media attention pay higher borrowing costs (calculated with different

measures such as the All-in spread drawn and the All-in spread undrawn, respectively (AISD and AISU)), net of the impact of standard controls affecting the cost of loans. We as well show that events of negative misconducts are at the core of our findings and document with two quasi-experimental designs and two instrumental variable approaches that our results are not driven by endogenous factors.

Secondly, our paper provides new evidence on the role borrower CSR reputation plays. The literature shows that a good reputation is an asset for the firms; anyway, a good reputation could also become a liability in case of violation of the stakeholder expectation (Rhee and Haunshild, 2006) and intensified attention on corporate behaviour. This fundamental aspect has been until now not fully explored in the CSR and banking literatures. By taking into account these considerations, we show that the effect of negative media attention on bank loan cost is larger for misconducts of borrowers who signaled high CSR reputation.

Finally, we analyse the role lending relationships play in this setting. In particular, we take into account that reputational damage increases information asymmetry (Sufi, 2007) and we consider that lending relationship allows banks to learn more about the customer with respect to other financial lenders (Fama, 1985; Sharpe, 1990). For this reason, we expect that the lender with whom the borrower has the main relationship will be less affected by an increase in information asymmetry. We also consider that lending-relationships are an insurance for the firms in bad times because relationship-banks offer more favourable financial condition in response to corporate crisis (Bolton, 2016). According with the previous literature, our results show that the impact that negative media attention has on loan cost becomes smaller in case of prior lending relationships between the lead arranger and the borrower.

The paper is organized as follow. In Section 2, we explain how our main variable of interest is measured and we look at the structure of the dataset. In Section 3 and Section 4, we analyse the effect of media attention on CSI conducts on bank loan cost and we show that our

results are not affected by endogeneity. In Section 5, we provide further evidence on the robustness of our results by considering a different measure of negative media attention and bank loan cost. In Section 6, we look at the role of the borrower CSR reputation and in Section 7 we analyse the role of the lending relationship. Finally, in Section 8, we conclude.

2. Data sources

In order to test our research hypothesis, we create a database merging several datasets.

The data source for our measure of negative media attention comes from “RepRisk” (www.reprisk.com), a Swiss company specialized in risk management. RepRisk is the main provider of information on corporate reputational risk for financial intermediaries, insurance providers and institutions. The data are provided through the Wharton Research Data Services (WRDS) and are used in the construction of the Dow Jones Sustainability Index (DJSI), the Carbon Disclosure Project (CDP) and by FTSE Russell when reviewing and selecting companies for the FTSE4Good Index Series.

The reputational “RepRisk” Index (from now on “RRI”) focuses on company’s exposure to business conduct risks related to the environmental, social and governance (ESG) corporate social responsibility domains.³ Its goal is to capture and evaluate perceptions of the general public using any kind of media.

To this purpose, RepRisk daily screens with a sophisticated algorithm not only the traditional media such as international and local newspapers, but also those social medias that are becoming increasingly relevant in more recent times such as online news and news-wires, blogs, social media and the world wide web, going through over 80,000 media and stakeholder sources every day in 15 different languages. In this way, the RRI captures and evaluates the impact of news from the moment in which they are first released in local

³ We give further information on the business conduct risks criteria in the Appendix.

language up to the moment in which they are known at international level (evaluating more accurately and in advance information from non-English-speaking sources). Reprisk does not deliberately fact check the collected news since its purpose is to capture perception and not the expert evaluation of the reliability of information.

After this news screening process, information is delivered to a specialized team of analysts that evaluate them in term of severity (in particular considering CSR news more severe in proportion to their effects on health, and if they stem from deliberate behaviour and not unintended accident), scope (based on type and extension of media coverage) and novelty. Considering these parameters, once the news spread, a score spanning from 0 to 100 is assigned. After that, RepRisk follows the dynamics of the change in negative media attention on a given company. The RepRisk score increases if media attention gets more severe (if the news is on a more important media source or they are found to be more severe than expected) and it otherwise decreases slowly and reaches zero when the incident has been forgotten or forgiven.

Given what said above, a distinctive characteristic of the RepRisk index is that it is built by considering just the bad news and, as such, it is different from the classical CSR measures that are created by considering both good and bad news coming from external and internal sources of the firm. Not mixing good and bad news is a methodological advantage since the literature has demonstrated that they have asymmetric effects. More specifically, CSR strengths and weaknesses generally come from different sources, with the former being more likely to be produced inside the company and considered for this reason less reliable than those coming from third parties. For this reason, CSR strengths tend in general to have weaker effects on economic variables (Chatterjee et al. 2009 and Lioui et al., 2018 among others).

Our second source of data comes from a 2016 extract of WRDS-Thomson-Reuters' LPC DealScan (from now on “Deal Scan”). DealScan is a dataset widely used in the banking literature for its extensions and it contains information on syndicated loan characteristics and on borrowers and lenders.

Borrowers' balance sheets and financial data have been downloaded by a third information source (Datastream). The matching of RepRisk and DealScan data has been performed using company tickers and controlling on each single case due to the fact that different companies can be associated to the same ticker.

Our original sample consists of all the companies that have been included in the MSCI World index during the 2007-2016 period. The aim of the “MSCI World Index” is to represent large and mid-cap firms across 23 developed countries covering 85% of the free float-adjusted market capitalization in each country. When merging this dataset with DealScan we obtain a novel dataset with information on 889 firms.

The basic unit of observation in our analysis is the credit facility. More specifically, each credit facility is part of a package of facilities related to the same company that could differ by type and terms and, for this reason, have to be considered separately. Our final dataset contains 6,527 (facility) observations. Most of the facilities are credit lines (50 percent of the sample) and term loans (around 30 percent of the sample) and most loans are quoted on a base rate and have at least a fee. Information on the maturity, on the facility amount, on loan characteristics and on borrower and lender characteristics is also retrieved from DealScan. Table 1 shows the country breakdown of our sample where most of the loan facilities have been provided to US companies (59 percent of the sample), the following countries of origin being Canada (8.4 percent), United Kingdom (4.5 percent) and Australia (2.3 percent).

Variables included in the dataset are shown in Table 2. From “DealScan” we obtain our main dependent variable, the “All-in Spread Drawn”, allowing us to compare facility pricing across multiple facilities. It has been computed as the sum of the coupon spread and the annual fee, assuming one hundred percent usage of the credit line, and it is quoted over LIBOR. It is not calculated for fixed-rate loans or notes, letters of credit, or subordinated debt. Information on firm risk, firm leverage, firm profitability and loans characteristics is also included in the dataset.

2.1 Summary statistics

The main variable of interest in our analysis is the RepRisk rating scaled with the market value of the company (Fombrun and Shanley, 1990).⁴ The RepRisk rating is on average equal to 1.46, but it spans from a minimum of 0 up to a maximum value of 98.49. In particular, in our sample almost 45 percent of the facilities (2,639 observations) have been granted to firms not subject to negative media attention. We use the natural logarithm of this variable in our estimates in order to deal with its asymmetry and make our findings easier to interpret.

Summary statistics of balance and financial characteristics of the firms are reported the Table 3. The bank loan all-in spread drawn over LIBOR is on average 162 bps. The facility amount has been converted into dollars and its median value is 700 millions. Maturity is expressed in number of months since the facility starting date and is on average equal to 50 months. Sales and market value are also expressed in dollars and their median values are 6,752 and 9,173 millions of US dollars respectively. Average market-to-book ratio in the sample is 2.91, debt is almost half of total capital on average, price volatility is on average equal to 22 percent, the

⁴ The rationale is that it is important to take into account that companies with higher capitalization are more well-known from the general public. Hence, their behavior has more important consequences, especially for financial investors, and creates more marketable news. For these reasons they are more heavily scrutinized by media sources and are more exposed to media attention. As a consequence, for the same CSR misconduct, companies with higher market value will get, *ceteris paribus*, higher attention from the media. Adjusting for market capitalization allows to correct for this bias and to compare media attention on CSR in relative terms, not absolute terms.

proportion of cash over total capital is 6 percent on average, mean return on equity is 14.01 percent and the earnings per share are on average equal to 2.5 dollars.

3. Econometric findings

In order to test our null hypothesis, we estimate the following specification:

$$\begin{aligned}
 & \text{Log}(All-in Spread Drawn)_{i,t} \\
 &= \alpha + \beta \text{Log}(1 + RRI)_{i,t} + \sum_{j=1}^{n(\gamma)} \gamma_j \text{Firm Characteristics}_{ji,t} \\
 &+ \sum_{\substack{h=1 \\ n(h)}}^{n(h)} \delta_h DLoan Type_h + \sum_{l=1}^{n(l)} \vartheta_l DLoan Purpose_l \\
 &+ \sum_{m=1}^{n(m)} \zeta_m DCountry of Syndication_m + \sum_{p=1}^{n(p)} \eta_p DCountry_p \\
 &+ \sum_{r=1}^{n(r)} \lambda_r DIndustry_r + \sum_{s=1}^{n(s)} \xi_s D
 \end{aligned}$$

(1)

where the dependent variable *Log (All-in drawn)* is our measure of the loan cost spread (the DealScan All-in spread drawn as described in section 3). Our main regressor of interest (the *RRI* variable) is the aggregate ESG RepRisk measure of negative media attention scaled for the firm market value expressed in billions of dollars. Among regressors, firm characteristics include time variant measures of profitability, leverage and risk and borrower's balance sheet variables generally used in this literature. More specifically, we consider return to equity, earnings per share and the ratio of cash over total capital as measures of corporate profitability. We include among regressors the ratio of total debt over total capital as a risk

measure, while the market-to-book ratio has also been used as a measure of bankruptcy risk.⁵ Among variables controlling for heterogeneity of loan characteristics we use facility amount, maturity, loan type, loan purpose, lender fixed effects measured as number of lenders taking part at the syndicated loan, seniority, collateral requirement and loan currency. Country of syndication dummies are as well included to capture country fixed effects related to the regulatory environment of the country of syndication, while country fixed effects control for time invariant country characteristics. We as well introduce time fixed effects and the interaction between them and country fixed effects. This interaction allows us to control for several factors. First, it allows to capture heterogeneity of country specific macroeconomic shocks in the same year due to the different monetary and fiscal policies adopted at domestic level. Second, it allows to control for time varying social, environmental and technological country-specific characteristics that could significantly affect both CSR and their media coverage. A detailed description of these variables including the complete breakdown of loan characteristics is presented in Table 2.

Econometric findings for the above described model are presented in Table 4. We start our econometric analysis by looking at the univariate relationship between negative media attention and the cost of loan reported in column 1. In column 2 we estimate the most parsimonious specification including the main borrower and loan characteristics and sector, country, year and country of syndication dummies. In column 3 we introduce further controls for borrower characteristics and country-time fixed effects, while we introduce lender relationships as well in the fully augmented specification of column 4.

⁵ As is well known the market-to-book ratio is used by Fama and French (1995) in the multifactor CAPM literature with their three factor models in order to identify exposure to bankruptcy risk as an orthogonal risk factor, independent from idiosyncratic nondiversifiable risk and small size risk. From then on the variable has been used in the multifactor models that followed using more than three components.

Estimates findings show that our research hypothesis is not rejected. Higher negative media attention has a positive and significant effect on the amount that the borrower pays in bps over the LIBOR for each dollar drawn. The RRI coefficient is significant in all of the four specifications. According to our last fully-augmented specification (Table 4, column 4), the elasticity coefficient of the RRI variable is 0.08. If we consider that the median loan amount is 700 million USD and the median loan age is 4 years, the estimated elasticity implies that one standard deviation change of the RRI variable produces a total increase in the cost of loan over its entire life of around 72.9 million (around 18.2 million per year corresponding to 2.6 bps).

Among other controls leverage has, as expected, a positive and significant effect, while return on equity a negative and significant effect on the dependent variable. The negative effect of log of sales shows that size has, per se, a negative and significant impact on the spread as well as the facility amount, as found in previous studies (e.g., Hasan et al., 2017). The collateral requirement has a positive and significant effect on the loan cost, consistently with the literature showing that lenders require higher collateral for lower quality borrowers (Booth and Booth, 2006).

We as well wonder whether lenders also care about trends and not just levels of negative media attention. More specifically, we expect that an increasing trend indicates that the reputational problem is getting more severe and therefore it is positively affecting the loan spread. To this purpose in Table 5 we add to the standard specification a variable measuring the trend of negative media attention calculated as the increase in negative media attention with respect the previous month. Our guess is supported by empirical evidence. The sign of our variable of interest is positive and significant along all the specifications. Again, regressors of the base specification maintain sign and significance. This result implies

provides further evidence that lenders not only consider media as a determinant source of information but also follow and evaluate its trend.

4. Identification strategy

Our findings may be affected by endogeneity bias. First, it is possible that firm characteristics for which we cannot control for could be correlated with our variable of interest and could affect the bank loan spread as well, leading to biased estimates. A second potential concern in this direction is that we observe the loan cost only when the company requires a loan. Rational borrowers are likely to optimize the timing in which they asking for a loan. If this is the case, we are probably estimating the lower bound effect and the true effect of negative media attention on loan cost will be probably higher.

The first best counterfactual and the second best of a randomized controlled experiment are two approaches not available to tackle these problems. In order to deal with them we propose a propensity score matching, a quasi-experimental design and two instrumental variable approaches.

a. Propensity Score Matching

Our first quasi experimental design consists of matching couples of treated (receiving negative media attention) and non-treated (not receiving negative media attention) firms belonging to the same country that have the same probability of being treated ex-ante. To this purpose we build an optimal control sample by matching our observations through a propensity score, following the approach developed by Rosenbaum and Rubin (1983) and Heckman, Ichimura, and Todd (1997). This approach allows to minimize selection bias and leads to a more robust inference.

The propensity score has been calculated with a logit regression using as dependent variable a dummy that takes value one if the firm has a positive score of negative media attention. The dependent variable is regressed on sales, profitability (the three-month lags of the returns on equity and earnings per share), financial risk metrics (the proportion of total debt over total capital and market-to-book value) and the country-sector average of negative media attention since some countries and sectors are indeed more easily subject to media scrutiny.

Based on the propensity score, we match observations using the 5 nearest neighbours with replacement. Replacement improves the average quality of the matching decreasing the bias. Having more neighbours has the advantage of using more information to construct the simulated counterfactual for each participant and the cost of a likely poorer match (Smith, 1997). For this reason, we impose a caliper of 5 percent in order to prevent bad matches. By following this approach, we obtain a treated group of 731 observations and a control group of 531 observations.

Table 6 shows that the quality of our matching is high since there are not significant differences in observables, except for our variable of interest, the bank loan spread. According to this result, being object of negative media attention is associated to a 0.5 bps increase in the bank loan (all-in) spread.

Table 7 presents regression findings of our benchmark specification in (1), estimated with treatment and control groups defined with the above mentioned PSM approach, comparing firms that have the same probability of being treated ex-ante. The positive and significant effect of negative media attention on the all-in loan spread is again confirmed. Results are not sensitive to the specific propensity score matching algorithm adopted⁶.

When we change our matching procedure and we match and compare the same firm prior being object of negative media attention and after the spread of news on CSI conducts results

⁶ Note that one-to-one matching or radius matching do not change the significance and the magnitude of our findings.

do not change. In particular, we observe that there are not any differences in observable characteristics expect for the “all-in spread drawn”. Results are omitted but are available upon request.

b. Matching “Difference-in-differences”

Despite the fact that we compared firms that have the same probability ex-ante of being treated and we are evaluating the impact of news reported unexpectedly by the media, omitted firm characteristics could still bias our results.

The time extension of our sample allows us to follow the syndicated loan history of the firms. A difference-in-differences approach allows to estimate the effect of negative media attention on loan costs by comparing changes over time from a (treatment) group affected by negative media attention with changes over time from a (control) group unaffected by negative media attention (that is, never treated firms). The main concern in difference-in-differences approach is that the underlying common trend assumption could be violated. In order to handle this problem, we propose two different ways to select treatment and comparison groups for which the common trend assumption is likely to hold.

We follow the literature (e.g., Lemmon and Roberts, 2010) by matching with a propensity score matching treatment (firms that in our sample move from the absence of media attention status to a negative media attention status and get at least a loan in each of the two status) and control (never treated firms) groups based on pre-treatment characteristics. Table 8 shows that balancing properties hold since there is no significant difference in observable pre-treatment characteristics between control and treated groups, as well as differences in the bank loan cost. Table 9 shows econometric findings when estimating our benchmark specification with the treatment and control groups defined as above. In column (4) we introduce firm-fixed effects to estimate properly the difference-in-differences estimator. The

significance of the RRI variable is confirmed with this new approach. Finally, in the last column we replace our measure of negative media attention with a dummy variable taking value one after the treatment: the coefficient is still positive and statistically significant, signalling that shifting from zero to the negative media attention status increases loan costs.

c. Instrumental variable approach

In order to check further in depth whether our findings are affected by endogeneity we develop an instrumental variable approach.

Our instrument is the twelve-month lagged sector average score of negative media attention on corporate irresponsible conducts concerning labour relations, excluding the specific firm from the average, and it is close to what done in several econometric contributions using industry averages as exogenous shocks to firm financial performance. Among them Ghoul et al. (2011) and Kim et al. (2014) use average CSR at industry level as instrumental variable for firm level corporate social responsibility when they analyse the effect of corporate social responsibility on the cost of equity. Our selected instrument is relevant since average media attention on labour misconducts in the industry is correlated with the borrower's negative media attention (ie., if the borrower is in an industry where competitive pressures on labour costs are stronger the likelihood of misconduct in this CSR domain is higher and higher is as well the probability that media will report it). At the same time we do not expect average lagged industry media attention on CSR misconducts to affect per se the cost of loan of the individual borrower on that industry.

Results of IV estimates are reported in Table 10. Our main variable of interest maintains sign and significance when the model is estimated with the instrumental variable approach. According to this result, the elasticity coefficient of negative media attention is 0.15. This coefficient is slightly higher with respect to our base model, but it is still positive and

statistically significant. In terms of magnitude it implies a total cost over the median loan amount of 118 millions considering the median loan age (or 29,6 million per year corresponding to 4.2 bps).

In order to test whether our findings are robust when using a different instrument we follow Goss and Robert (2011) by using the state-level proportion of voters for the Republican party during the last presidential election before loan concession in the state of the borrower's headquarter. The rationale for the relevance of this instrument is that local cultural and political characteristics affect the borrower CSR behaviour. Findings from Rubin (2006) support our hypothesis since companies a high level of CSR are more likely to be located in democratic states. We as well use as instrumental variable a dummy variable equal to one if firms belong to states at the border with the Canada; we expect that states that are closer to Canada are more sensitive to environmental and social misconducts and, for this reason, it is more likely that borrowers based in these states will capture, *coeteris paribus*, greater attention from media for their misconducts.

We argue that the instruments are valid since there are no reasons to believe that borrower's headquarter and distance from the Canadian border may affect the cost of the syndicated loan.

Table 11 shows results of the new IV approach confirming sign and significance of negative media attention. Note that for this robustness check we must limit our sample to US borrowers. Overall, results from IV estimates in Tables 10 and 11 and those from difference-in-differences estimate provide from different directions evidence that our findings overcome endogeneity concerns.

5. Robustness Check

We evaluate whether our findings remain robust when considering different measures of cost of loans. In order to do so, we consider that loans are complex contracts including several fees, some of them capturing the price of options embedded in such contracts for the given opportunity of future usage at a predetermined price. These additional features cannot be captured by the “All-in Spread Drawn” since the latter assumes 100 percent usage. We therefore use for our robustness check a different measure of bank loan cost, the all-in spread undrawn (AISU), a loan cost measure assuming 0 percent usage of the facility amount.

We expect that a higher all-in spread undrawn is associated to companies with higher negative media attention in order to make the funds available for them. There are different reasons for why it should be the case. According to the literature, loan commitments guarantee borrowers the availability of funds for a given period of time at a predetermined rate and for this reason can be considered for them as an insurance against borrower specific risk premium (Thakor, 1982; Berg et al., 2016). In particular, loan commitments could be seen as options (Thakor et al., 1981) that the firms will exercise if the spot borrowing cost is lower than the predetermined bank borrowing cost.

Given these characteristics, a lender anticipates that firms with low CSR are more likely to suffer from a reputational problem and find themselves in a situation in which they draw down from the credit line in a state in which, due to their loss of reputation and higher risk, the spot loan cost is presumably higher than the predetermined loan cost. This situation would create a wealth transfer from lenders to borrowers. Higher fees for low CSR companies are therefore used by lenders to compensate ex ante the expected loss under the commitment. According to this hypothesis, Berg et al. (2016) show that all-in spread undrawn is positively related with borrower riskiness, measured by either equity volatility or the volatility of borrower profitability. If companies with higher RRI are riskier their

creditworthiness should be more volatile leading in equilibrium to a higher AISU. Results from our estimates are shown in Table 12. The positive and statistically significant coefficient supports our hypothesis: higher fees are charged to borrowers with higher negative media attention. In terms of economic significance, a one percent increase in our measure of negative media attention is associated with a 0.143 percent increase of the all-in spread undrawn.⁷ This implies a significantly higher impact on the cost of loan with respect to our benchmark estimate where the dependent variable was the all-in spread drawn. Considering again the median loan amount and loan age we have total added cost for a one standard deviation change in the RRI variable of 130.2 million (corresponding to 32.6 million per year or around 4.7 bps). Comparing this result with that of the benchmark estimate in Table 4, column 4, the calculated extra cost (AISU vs AISD) is around 56 million over the entire median loan age, or around 14 million per year (an extra cost equal to 2 bps). This implies that lower CSR reputation raises not just the standard lending rate but also fees for not using the credit line (that apply when calculating the AISU but not the AISD).

We consider as well that the RepRisk measure of negative media attention is a score that incorporates the subjective evaluation of RepRisk experts taking in account different aspects of the news (severity, novelty and reach of the source) capturing in this way several dimensions affecting stakeholders' perception. In this further robustness check, we extract from it an objective (non-expert evaluated) measure of negative media attention. More specifically, we use as variable of interest the number of related corporate misconducts mentions that each firm has in the news scaled by the market value of the firm. Results are shown in Table 13. Again, our coefficient of interest is still positive and statistically significant.

⁷ Note that our results are still positive and statistically significant when we use as dependent variable the “usage weighted spread”, computed as a linear combination of the all-in spread and all-in spread undrawn and weighted using the likelihood of withdrawn.

In a further robustness check we consider that our sample period includes the time interval of the global financial crisis (since 2008). Our findings can therefore be sensitive to this shock. In order to deal with this potential problem and test the robustness of our results we gradually eliminate from the sample loans that have been issued during the period spanning going from 2007 until 2010. Results are reported in Table 14. We find from this check that the crisis did not affect our results and the coefficients remain statistically significant and positive.

Finally, we look at the financial situation of the firms engaging in CSR misconducts. Financial distress is a confounding effect that may play a role in our estimate. In particular, financial distress raises by definition borrower risk and can definitely increase the cost of loan (if not preventing credit access). At the same time, it may be negatively correlated with CSR and positively correlated with CSR misconducts since several studies in the literature show that CSR effects disappear once controlling for financial strength, presumably because profits and market rents create a more favourable ground for CSR. Even though our IV and diff-in-diff estimates should tackle all the endogeneity concerns we want to test specifically whether corporate misconducts are a source of risk that it is independent from the actual financial performance of the firms. Furthermore, literature usually found that low CSR does not affect economic variables for high quality firms (i.e., Goss and Roberts (2011)).

In order to better examine this important aspect, we split the sample between firms with high leverage and low return on equity and firms with low leverage and high return on equity considering the median of the two distributions as threshold. According to results reported in Table 15 (Column (1)-(2)), in all subsamples the effect of negative media attention on the bank loan spread is positive and statistically significant, with the coefficient being higher in the subsample of borrowers with better financial conditions.

6. Borrower CSR reputation

The literature shows that a good reputation has several benefits such as, among others, lower stock market loss for earnings surprise (Pfarrer et al., 2010). On the other side, a good reputation could also be a liability because it is associated with a higher reputational risk and, conversely, a bad reputation could be, sometimes, an asset. Along this line, Rhee and Haunschild (2006) show that firms with a good reputation suffer from greater losses for product recalls, while Chandler et al. (2018) show that serial polluters are less likely to get the attention of the media for their environmental misconducts.

In this section we examine the role borrower CSR reputation plays. In particular, we argue that negative news on CSR misconducts should have a stronger effect in case of stronger previous CSR public commitment from the borrower.

In order to test this hypothesis, we analyse North American firms that in our sample took part voluntarily to the largest corporate sustainability initiative in the world, the “United Nation Global Compact”. The purpose of the United Global compact is to “align strategies and operations with universal principles on human rights, labour, environment and anticorruption and take actions that advance social goals”.

Column 3 in Table 15 confirms our hypothesis. On the one side, taking part to the United Nation Global Compact is negatively associated with the cost of credit since it is consistently perceived as a signal of high CSR reputation. This coefficient shows the positive effect of good reputation. On the other side, the interaction between negative media attention on CSR and participation to the United Nation Global Compact initiative is associated with a higher increase in loan cost. This is consistent with the idea that the sequence of the two events (previous strong CSR commitment and following CSR misconduct covered by negative media attention) is interpreted as a signal of cheating and CSR “washing”, thereby reinforcing the negative reputational effect on borrower risk and cost of loan.

7. Lending Relationship

In this section we focus our attention on the role of the lead arranger and of its relationship with the borrower. More specifically, we argue that such relationship may soften the effect of negative media attention on the cost of loan for three concurring reasons.

First, specialised intermediaries (bank lenders) having a lending relationship with a borrower dispose of private information on the borrower that mitigates information asymmetry problems (as borrower's reputation does) (Sufi, 2007). Negative media attention reduces borrower's reputation thereby worsening information asymmetries for lenders who do not have prior lending relationships while those who have can rely on them. Second, by knowing better the borrower, lenders with prior relationships may be able to discriminate reliable news that capture relevant events from fake news. More specifically, we assume that they are able to give proper weights to negative media attention anticipating whether the news on misconducts are going to affect severely or not the borrower. This superior ability will reduce the risk related to negative media attention.

Third, the literature suggests that relationship banks play a crucial role in dealing with financial needs in response to both investment opportunities and crisis periods. In particular, relationship banks provide an insurance by offering discounted rates in bad times with respect to transactional banks (e.g., Bolton et al., 2016). For this reason, our guess is that lead arrangers that had prior relationships with the borrower will charge a lower interest rates to investors with higher negative media attention with respect to lead arrangers that have never had a relationship with the borrower.

In order to test this hypothesis, we use three variables alternatively to measure lending relationships. First, we create a dummy equal to one in case of prior lending between the lead arranger and the borrower (Table 16, column 1). Second, in order to capture the strength of the relationship we as well measure the percentage of the number loans for the lender-

borrower pair on the total number of loans by borrower (Table 16, column 2) (Petersen and Rajan (1994)). Third, in order to capture the depth of the relationship in terms of loan size, we use the percentage of the amount of loans for the lender-borrower pair on the total amount of loans by borrower (Table 16, column 3) (Cocco et al., 2009). These three variables capturing different aspects of the borrower-lender relationship have been separately interacted in three distinct specifications with our measure of negative media attention.

Results reported in Table 16 show that the Reputational Risk Index is still positive and statistically significant. The three variables measuring the lender-borrower relationship (not interacted with negative media attention) are all negative and significant confirming that presence and intensity of a previous relationship allows to obtain more favourable lending conditions. The interaction between these three variables and the RRI variable is negative and significant supporting our hypothesis on its mediating role in lenders' interpretation of negative media attention. In particular, the effect of negative media attention on bank loan is still positive and significant. In terms of economic significance, the elasticity coefficient (0.09) is close to that of the benchmark model of Table 4 column 4, but the effect of prior lending relationships with the lead arranger may reduce by one half, up to two third, the cost-increasing effect. This implies that prior lending relationships with the lead arranger can save away from the cost of loan reducing the effect of negative media attention from 6 to 12 million per year (a cost corresponding to 0.1-0.16 percent of the total loan amount).

8. Conclusions

Our paper contributes to the literature investigating the nexus between corporate social responsibility and corporate performance from an original perspective. Corporate social responsibility is not an experience good and, as such, it is subject to asymmetric information. The information gap can be bridged by specialised intermediaries (ethical rating agencies) or

by novel “hybrid” approaches where experts evaluate (without judgement on the reliability of the news) the level of negative media attention on traditional and novel (web) sources on corporate CSR stance. Expert-evaluated negative media attention is likely to be a much noisier source of information about CSR (as negative media attention may also incorporate fake or unverified news), but it is of paramount importance since media coverage is definitely going to affect corporate reputation and the public opinion. In our research we wonder whether lenders take into account this information when pricing loans to borrowers. In doing so we follow the recent literature by considering that loans are sophisticated contracts including several fees and therefore the cost of loans is not just represented by a unique lending rate.

Our findings show that negative media attention raises the cost of loans measured in different ways (all-in spread drawn and all-in spread undrawn) after controlling for all concurring factors including the relevant borrower and loan characteristics. Evidence on the sensitivity of lenders to negative media attention is confirmed by the fact that the trend of negative media attention is significant as well, thereby reinforcing the impact of our main variable of interest. We as well observe that objective corporate misconduct events are at the core of the observed effect and show with several (difference-in-differences, propensity score matching, instrumental variable) approaches that our findings are not biased by endogeneity and, in a further specific check, that the impact of negative media attention cannot be confused with the effect of financial distress. We as well show that prior lending relationships between the lead arranger and the borrower can alleviate the negative effect of negative media attention on the loan cost. Last, we demonstrate that high CSR reputation has additional effects on the lender’s perception of borrower risk since companies signing the Global Compact and later reporting CSR misconduct are charged additional extra costs on their loans.

The most likely interpretation of our findings is that, consistently with what found in the literature, negative media attention on low corporate social responsibility raises exposure to an orthogonal source of risk not captured by those generally considered in finance (systematic nondiversifiable risk, small size risk, etc.) since companies with lower corporate social responsibility (and especially those perceived as such from the public opinion thereby receiving negative media attention) are indeed more likely to incur in conflicts with regulators and stakeholders. Rational lenders anticipate it and charge higher costs on loans for this reason.

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Tables

Table 1: Country Breakdown of our sample

Country	Count	% of observations
Australia	156	2.39%
Austria	25	0.38%
Belgium	30	0.46%
Bermuda	87	1.33%
Brazil	24	0.37%
British Virgin Islands	2	0.03%
Canada	547	8.38%
Cayman Islands	3	0.05%
Chile	8	0.12%
China	1	0.02%
Czech Republic	7	0.11%
Denmark	24	0.37%
Egypt	1	0.02%
Finland	20	0.31%
France	132	2.02%
Germany	193	2.96%
Ghana	3	0.05%
Greece	3	0.05%
Hong Kong	4	0.06%
India	4	0.06%
Ireland	62	0.95%
Israel	17	0.26%
Italy	35	0.54%
Japan	19	0.29%
Mauritius	5	0.08%
Mexico	27	0.41%
Netherlands	26	0.40%
New Zealand	4	0.06%
Norway	16	0.25%
Poland	20	0.31%
Portugal	21	0.32%
Qatar	34	0.52%
Russia	82	1.26%
Singapore	10	0.15%
South Africa	26	0.40%
Spain	183	2.80%
Sweden	17	0.26%
Switzerland	106	1.62%
Turkey	265	4.06%
USA	3905	59.83%
United Arab Emirates	19	0.29%
United Kingdom	294	5.42%
Total	6527	100%

Table 2: Variable legend

Panel A: Loan Characteristics

Variable name	Definition
<i>All-in Spread Drawn</i>	Amount paid in bps over LIBOR for each dollar drawn assuming 100% usage of the credit facility
<i>Log (All-in Spread Drawn)</i>	Natural logarithm of the variable “All-in Spread drawn”
<i>All-In Spread Undrawn</i>	Amount paid in bps assuming 0% usage of the credit facility
<i>Log (All-In Spread Undrawn)</i>	Natural logarithm of the variable “All-in Spread Undrawn”
<i>Facility amount</i>	Amount of the facility in dollar
<i>Maturity</i>	Number of months the facility will be active since the starting date
<i>Purpose of the Loan</i>	Main purpose of the facility (Acquisition Line, Aircraft finance, CP backup, Capital expenditures, Corporate Purposes, Debt Repayment, Defensive bid, Exit financing, Guarantee, IPO, Merger, Real estate, Recap., Restructuring, Securities Purchase, Ship finance, Spinoff, Stock Buyback, Takeover, Trade Finance, Work. Cap.)
<i>Seniority</i>	Level of seniority of the facility for the borrower debt structure
<i>Currency</i>	Currency in which the loan has been issued (Australia Dollars, Brazilian Real, Canada Dollars, Denmark Kroner, Euro, Hong Kong Dollars, India Rupees, Japan Yen, Mexico Pesos, New Romanian Leu, New Zealand Dollars, Norway Kroner, Poland Zloty, Russian New Ruble, Saudi Arabia Riyal, Singapore dollars, South Africa Rand, Sweden Krona, Switzerland Francs, Taiwan Dollars, United Kingdom Pounds, United States Dollars)
<i>Secured</i>	Dummy variable equal to 1 if the facility has been secured
<i>Country of syndication</i>	Country in which the loan has been syndicated (Australia, Austria, Belgium, Bermuda, Brazil, Canada, Chad, Chile, China, Czech Republic, Denmark, Dominican Republic, Egypt, Finland, France, Germany, Ghana, Greece, Hong Kong, India, Ireland, Israel, Italy, Japan, Jordan, Kazakhstan, Korea (South), Liberia, Luxembourg, Mexico, Mongolia, Netherlands, New Zealand, Norway, Peru, Philippines, Poland, Portugal, Qatar, Russia, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, USA, United Arab Emirates, United Kingdom, Uzbekistan)

Panel B: Firm Characteristics

Variable name	Definition
<i>Company</i>	Company name
<i>Country</i>	Country of the company headquarter (See Table 1)
<i>Sector</i>	Sector in which the firm operates
<i>Market value to book</i>	Ratio of the company book value and the market value
<i>Total Debt/Total Capital</i>	Ratio of Total Debt over Total Capital
<i>Return on Equity</i>	Net income returned as a percentage of shareholders’ equity
<i>Market Value</i>	Market value of the company
<i>EPS</i>	Earnings per share
<i>Sales</i>	Annual Sales of the company
<i>Republican Strength</i>	Number of people that vote for the Republican Party over the total number of voters in the state where the headquarter of the firm is located

Panel C: Negative media attention

Variable name	Definition
<i>Reputational Risk Index (RRI)</i>	Negative media attention RepRisk score
<i>Trend RRI</i>	Change in the Reputational RepRisk score with respect to the previous month
<i>Total Mentions</i>	Total number of mentions related to a firm risk incident scaled by the market value
<i>Country-Sector Labour Misconducts</i>	Country-Sector Negative Media Attention RepRisk Score on labour relationship misconducts

Table 3. Summary statistics

The Table shows the summary statistics of the variables used in our econometric models.

	<i>Count</i>	<i>Mean</i>	<i>SD</i>	<i>25th perc.</i>	<i>50th perc.</i>	<i>75th perc.</i>
<i>AISD</i>	4701	162.64	117.79	95	137.5	200
<i>AISU</i>	2513	22.25	19.19	10	15	27.5
<i>Maturity</i>	6367	48.68	26.77	36	60	60
<i>Facility amount (Millions of dollars. \$)</i>	6525	1252	1988.02	280.66	700	1500
<i>Sales (Millions of dollars \$)</i>	6249	20381.54	45418.75	2779.54	6751.61	16615
<i>RRI</i>	5871	1.46	3.63	0	0.44	1.68
<i>Trend RRI</i>	6061	0.17	16.51	-0.11	0	0
<i>MV (millions of dollars \$)</i>	5871	23534.1	44073	4676.56	9172.86	21680.3
<i>Market value to book</i>	6000	2.91	109.29	1.33	2.22	3.51
<i>Total Debt/Total Capital (%)</i>	6268	48.94	58.576	31.72	47.08	62.63
<i>Cash/Total Capital</i>	5915	0.067	0.069	0.019	0.046	0.088
<i>Return on equity (%)</i>	6038	14.01	121.24	6.48	13.4	20.65
<i>EPS</i>	6176	2.52	8.57	0.52	1.65	3.29
<i>Total Mentions</i>	5865	0.68	5.02	0	0.07	0.50
<i>Sector Negative Media Attention On Labour Relationship Misconducts</i>	5566	3.60	2.45	1.75	3.12	5.17
<i>Republican Strength</i>	4010	0.45	0.09	0.37	0.44	0.52
<i>Prior Relationship Lead Arranger Borrower</i>	6030	0.40	0.49	0	0	1
<i>Percentage of loans for lender- borrower pair on total number of loans by borrower</i>	6030	0.21	0.33	0	0	0.37
<i>Amount of loans for lender- borrower pair on total number of loans by borrower</i>	6030	0.22	0.34	0	0	0.38

Table 4. The effect of negative media attention on the bank loan spread

The Table presents results from the following specification:

$$\begin{aligned} \text{Log (All-in Spread Drawn)}_{i,t} \\ = \alpha + \beta \text{Log}(1 + \text{RRI})_{i,t} + \sum_{j=1}^n \gamma_j \text{Firm Characteristics}_{i,t} + \sum_{h=1}^n \theta_h \text{Loan Characteristics}_{i,t} + \sum_{m=1}^n \zeta_m \text{Year FE}_t + \sum_{k=1}^n \eta_k \text{Country FE}_i \\ + \varepsilon_{it} \end{aligned}$$

where the dependent variable “All-in Spread drawn” is our measure of loan cost spread (the DealScan All-in spread drawn), RRI is the aggregate ESG RepRisk measure of negative media attention scaled for market value. Firm characteristics include time variant measures of profitability, leverage and risk, borrower’s balance sheet such as return to equity, earnings per share and the ratio cash over total capital as measure of the profitability of a firm; on the other side, we consider the ratio of total debt over total capital as measure of risk; market-to-book ratio has also been included as a measure of bankruptcy risk. Among variables controlling for heterogeneity of loan characteristics we use facility amount, maturity, loan type, loan purpose, lender relationship, securitization and loan currency (see Table 2 for details). Country of syndication dummies are as well included to capture country fixed effects related to the regulatory environment of the country of syndication, while country fixed effects control for time invariant country characteristics. We as well introduce time fixed effects and the interaction between them and country fixed effects.

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) OLS
Log(1+RRI)	0.226*** (0.0275)	0.0785*** (0.00971)	0.0757*** (0.00717)	0.0802*** (0.00748)
Maturity		0.000320 (0.000588)	0.000207 (0.000340)	6.14e-05 (0.000392)
Log (Facility amount)		-0.0666*** (0.0107)	-0.0605*** (0.00786)	-0.0675*** (0.00798)
Collateral		0.312*** (0.0338)	0.323*** (0.0168)	0.330*** (0.0156)
Log (Sales)		-0.100*** (0.0180)	-0.102*** (0.0199)	-0.107*** (0.0161)
Total Debt/Total Assets		0.00426*** (0.000858)	0.00437*** (0.000904)	0.00423*** (0.000805)
Return On Equity		-8.25e-05** (3.76e-05)	-0.000148*** (1.46e-05)	-0.000155*** (1.47e-05)
EPS			-0.00428*** (0.000732)	-0.00418*** (0.000609)
Market Value To Book			-0.000947*** (0.000292)	-0.000946*** (0.000281)
Cash			0.0133 (0.109)	0.00285 (0.120)
Currency FE	NO	YES	YES	YES
Loan Type FE	NO	YES	YES	YES
Loan Purpose FE	NO	YES	YES	YES
Seniority FE	NO	YES	YES	YES
Sectors FE	NO	YES	YES	YES
Country FE	NO	YES	YES	YES
Year FE	NO	YES	YES	YES
Country*Year FE	NO	NO	YES	YES
Lender FE	NO	NO	NO	YES
Constant	4.675*** (0.0168)	5.807*** (0.141)	5.723*** (0.0935)	5.690*** (0.102)
Observations	4,241	3,952	3,775	3,766
R-squared	0.042	0.633	0.670	0.678

Clustered standard errors at country level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5. The role of trend in negative media attention on the bank loan spread

The Table presents results from the following specification:

$$\begin{aligned} \text{Log (All-in Spread Drawn)}_{i,t} &= \alpha + \beta_1 \text{Log (1 + RRI)}_{i,t} + \beta_2 \text{Trend(RRI)}_{i,t} + \sum_{j=1}^n \gamma_j \text{Firm Characteristics}_{i,t} + \sum_{h=1}^n \partial_h \text{Loan Characteristics}_{i,t} \\ &+ \sum_{m=1}^n \zeta_m \text{Year FE}_t + \sum_{k=1}^n \eta_k \text{Country FE}_i + \varepsilon_{i,t} \end{aligned}$$

where the dependent variable “All-in Spread Drawn” is our measure of loan cost spread (the DealScan All-in spread drawn), RRI is the aggregate ESG RepRisk measure of negative media attention scaled for market value. Firm characteristics include time variant measures of profitability, leverage and risk, borrower’s balance sheet such as return to equity, earnings per share and the ratio cash over total capital as measure of the profitability of a firm; on the other side, we consider the ratio of total debt over total capital as measure of risk; market-to-book ratio has also been included as a measure of bankruptcy risk. Among variables controlling for heterogeneity of loan characteristics we use facility amount, maturity, loan type, loan purpose, lender relationship, securitization and loan currency (see Table 2 for details). Country of syndication dummies are as well included to capture country fixed effects related to the regulatory environment of the country of syndication, while country fixed effects control for time invariant country characteristics. We as well introduce time fixed effects and the interaction between them and country fixed effects.

In this Table we add to the standard specification a variable measuring the trend of negative media attention (Trend(RRI)) calculated as the increase in negative media attention with respect the previous month.

VARIABLES	(1) OLS	(2) OLS	(3) OLS
Log(1+RRI)	0.0766*** (0.00978)	0.0738*** (0.00714)	0.0782*** (0.00756)
Trend	0.00684** (0.00278)	0.00514*** (0.00120)	0.00560*** (0.000873)
Maturity	0.000310 (0.000585)	0.000202 (0.000339)	5.54e-05 (0.000391)
Log (Facility amount)	-0.0668*** (0.0108)	-0.0606*** (0.00786)	-0.0676*** (0.00799)
Log (Sales)	-0.100*** (0.0180)	-0.102*** (0.0200)	-0.107*** (0.0162)
Collateral	0.313*** (0.0337)	0.324*** (0.0170)	0.331*** (0.0158)
Total Debt/ Total assets	0.00425*** (0.000859)	0.00436*** (0.000904)	0.00421*** (0.000804)
Return On Equity	-8.28e-05** (3.79e-05)	-0.000149*** (1.46e-05)	-0.000156*** (1.48e-05)
EPS		-0.00428*** (0.000736)	-0.00417*** (0.000614)
Market Value To Book		-0.000950*** (0.000290)	-0.000949*** (0.000280)
Cash		0.0172 (0.109)	0.00719 (0.120)
Currency FE	YES	YES	YES
Loan Type FE	YES	YES	YES
Loan Purpose FE	YES	YES	YES
Seniority FE	YES	YES	YES
Sectors FE	YES	YES	YES
Country FE	YES	YES	YES
Year FE	YES	YES	YES
Country*Year FE	NO	YES	YES
Lender FE	NO	NO	YES
Constant	5.808*** (0.140)	5.723*** (0.0927)	5.691*** (0.100)
Observations	3,952	3,775	3,766
R-squared	0.633	0.670	0.678

Clustered standard errors at country level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6. Balanced matching properties of treatment and control groups in the propensity score matching approach

We construct an optimal control sample by matching our observations following the propensity score approach (Rosenbaum and Rubin, 1983; Heckman, Ichimura, and Todd, 1997). The propensity score has been calculated with a regression using as dependent variable a dummy that takes value equal to one if the firm has been object of negative media attention. Among controls we include sales, profitability (the three-month lags of the returns on equity and earnings per share), financial risk metrics (the proportion of total debt over total capital and market value to book) and the country-sector average of negative media attention since some countries and sectors are indeed most easily subject to media scrutiny. We match observations using the 5 nearest neighbours with replacement. We impose a caliper of 5 percent in order to prevent bad matches. The table present T- statistics on differences in observables between the treatment and control group.

VARIABLES	Treated (Mean)	Non-Treated (Mean)	T-Statistics	P-value
ATT				
Log (All-in Spread Drawn)	4.90	4.73	3.05	0.000
Balanced Controls				
Country-Sector Average Negative Media Attention	22.72	22.51	0.83	0.408
Log (Sales)	8.93	8.86	1.45	0.148
One Lag Period EPS	2.30	2.09	0.68	0.498
Two Lags Periods EPS	2.22	2.11	0.36	0.718
Three Lags Periods EPS	2.18	2.18	-0.01	0.994
Lag one period return on equity	7.68	5.77	0.29	0.771
Lag two periods return on equity	7.58	6.15	0.22	0.827
Lag three periods return on equity	7.03	7.36	-0.05	0.959
Market value to book	3.94	2.84	0.73	0.464
Total Debt/Total Capital	45.69	47.40	-1.53	0.127

Table 7. The effect of negative media attention with “optimal” control groups created with propensity score matching

The Table presents results from the following specification where the control group is created with the propensity score matching approach based on characteristics illustrated in Table 6:

$$\begin{aligned} \text{Log (All – in Spread Drawn)}_{i,t} \\ = \alpha + \beta \text{Log}(1 + \text{RRI})_{i,t} + \sum_{j=1}^n \gamma_j \text{Firm Characteristics}_{i,t} + \sum_{h=1}^n \partial_h \text{Loan Characteristics}_{i,t} + \sum_{m=1}^n \zeta_m \text{Year FE}_t \\ + \sum_{k=1}^n \eta_k \text{Country FE}_i + \varepsilon_{i,t} \end{aligned}$$

where the dependent variable (All-in Spread Drawn) is our measure of loan cost spread (the DealScan All-in spread drawn), RRI is the aggregate ESG RepRisk measure of negative media attention scaled for market value. Firm characteristics include time variant measures of profitability, leverage and risk, borrower's balance sheet such as return to equity, earnings per share and the ratio cash over total capital as measure of the profitability of a firm; on the other side, we consider the ratio of total debt over total capital as measure of risk; market-to-book ratio has also been included as a measure of bankruptcy risk. Among variables controlling for heterogeneity of loan characteristics we use facility amount, maturity, loan type, loan purpose, lender relationship, securitization and loan currency (see Table 2 for details). Country of syndication dummies are as well included to capture country fixed effects related to the regulatory environment of the country of syndication, while country fixed effects control for time invariant country characteristics. We as well introduce time fixed effects and the interaction between them and country fixed effects.

VARIABLES	(1) OLS	(2) OLS	(3) OLS
Log (1+RRI)	0.0615*** (0.00140)	0.0556*** (0.00127)	0.0621*** (0.00145)
Maturity	0.000466** (0.000138)	0.000255*** (3.55e-05)	0.000240*** (3.11e-05)
Log (Facility amount)	-0.0294*** (0.00119)	-0.0274*** (0.000604)	-0.0330*** (0.000616)
Log (Sales)	-0.0896*** (0.00507)	-0.102*** (0.00136)	-0.0991*** (0.00128)
Collateral	0.390*** (0.00210)	0.390*** (0.00107)	0.406*** (0.000637)
Total Debt/Total Assets	0.00537*** (0.000109)	0.00491*** (3.14e-05)	0.00506*** (2.82e-05)
Return on equity	-0.000120*** (9.35e-06)	-9.03e-05*** (2.54e-06)	-7.61e-05*** (1.01e-06)
EPS		-0.00388*** (3.27e-05)	-0.00392*** (4.23e-05)
Market Value To Book		-0.000704*** (7.96e-06)	-0.000740*** (2.76e-06)
Cash		-0.126*** (0.00489)	-0.192*** (0.00526)
Currency FE	YES	YES	YES
Loan Type FE	YES	YES	YES
Loan Purpose FE	YES	YES	YES
Seniority FE	YES	YES	YES
Sectors FE	YES	YES	YES
Country FE	YES	YES	YES
Year FE	YES	YES	YES
Country*Year FE	NO	YES	YES
Lender FE	NO	NO	YES
Constant	5.050*** (0.0779)	4.588*** (0.114)	4.590*** (0.0914)
Observations	1,235	1,212	1,212
R-squared	0.675	0.682	0.692

Clustered standard errors at country level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 8. Balanced properties of the “difference-in-difference” approach based on a propensity score matching on pre-treatment characteristics

The table presents T- statistics on differences in pre-treatment characteristics between the treatment and control group based on a propensity score matching. We match observations on pre-treatment characteristics using radius matching and we impose a caliper of 0.2 . The table present T- statistics on differences in observables between the treatment and control group.

VARIABLES	Treated (Mean)	Non-Treated (Mean)	T-Statistics	P-value
Log (All-in Spread Drawn)	4.98	5.02	-0.68	0.497
Log (Sales)	7.10	7.20	-1.08	0.283
Earnings Per Share	1.23	0.98	0.96	0.335
Total Debt / Total Capital	41.65	39.22	1.08	0.280
Return On Equity	33.15	13.54	1.54	0.125
Cash	0.07	0.07	-0.17	0.862
Market value to book	-10.84	2.67	-0.73	0.465

Table 9. The effect of negative media attention on the bank loan spread – “Difference-in-differences” based on a propensity score matching on pre-treatment characteristics

The Table presents results from a matching “Difference in difference” approach where the control group is created on a propensity score on pre-treatment characteristics as illustrated in Table 8. We estimate the following model:

$$\begin{aligned} \text{Log (All – in Spread Drawn)}_{i,t} &= \alpha + \beta \text{Log}(1 + \text{RRI})_{i,t} + \sum_{j=1}^n \gamma_j \text{Firm Characteristics}_{i,t} + \sum_{h=1}^n \partial_h \text{Loan Characteristics}_{i,t} + \sum_{m=1}^n \zeta_m \text{Year FE}_t \\ &+ \sum_{k=1}^n \eta_k \text{Country FE}_i + \sum_{b=1}^n \vartheta_k \text{Firms FE}_i + \varepsilon_{i,t} \end{aligned}$$

where the dependent variable (All-in Spread Drawn) is our measure of loan cost spread (the DealScan All-in spread drawn), RRI is the aggregate ESG RepRisk measure of negative media attention scaled for market value. Firm characteristics include time variant measures of profitability, leverage and risk, borrower’s balance sheet such as return to equity, earnings per share and the ratio cash over total capital as measure of the profitability of a firm; on the other side, we consider the ratio of total debt over total capital as measure of risk; market-to-book ratio has also been included as a measure of bankruptcy risk. Among variables controlling for heterogeneity of loan characteristics we use facility amount, maturity, loan type, loan purpose, lender relationship, securitization and loan currency (see Table 2 for details). Country of syndication dummies are as well included to capture country fixed effects related to the regulatory environment of the country of syndication, while country fixed effects control for time invariant country characteristics. We as well introduce time fixed effects and the interaction between them and country fixed effects. Finally, we replace our reputational risk index with a dummy variable equal to one when a firm enters in a negative media attention status.

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS
Log(1+RRI)	0.0456** (0.0174)	0.0562*** (0.00624)	0.0679*** (0.00621)	0.0361*** (0.00456)	
Treatment					0.0509*** (0.00844)
Maturity	-0.00154 (0.00142)	-0.00185* (0.000998)	-0.00220* (0.00106)	0.00216** (0.00083)	-0.00195* (0.00097)
Log (Facility amount)	-0.0826*** (0.0182)	-0.0736*** (0.00750)	-0.0835*** (0.00996)	-0.0430*** (0.0119)	-0.0458*** (0.0113)
Log (Sales)	-0.0611*** (0.00852)	-0.0549*** (0.00204)	-0.0580*** (0.00361)	-0.0711 (0.0666)	-0.0696 (0.0718)
Collateral	0.323*** (0.0474)	0.350*** (0.0180)	0.367*** (0.0108)	0.0863*** (0.0122)	0.0989*** (0.0237)
Total Debt/Total Assets	0.00433*** (0.000622)	0.00442*** (0.000327)	0.00440*** (0.000326)	0.00869*** (0.000704)	0.00884*** (0.000698)
Return on equity	-0.000368 (0.000458)	-0.00101* (0.000531)	-0.00111* (0.000535)	-0.000871** (0.000391)	-0.000836* (0.000399)
EPS		0.000606 (0.000724)	0.000975 (0.00118)	0.00473*** (0.00101)	0.00426*** (0.00100)
Market Value To Book		0.00355*** (0.000264)	0.00379*** (0.000368)	-0.000437 (0.000285)	-0.000906** (0.000407)
Cash		-0.0215 (0.0903)	-0.00152 (0.107)	0.00123 (0.297)	0.0170 (0.294)
Currency FE	YES	YES	YES	YES	YES
Loan Type FE	YES	YES	YES	YES	YES
Loan Purpose FE	YES	YES	YES	YES	YES
Seniority FE	YES	YES	YES	YES	YES
Sectors FE	YES	YES	YES	YES	YES
Country FE	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES
Country*Year FE	NO	YES	YES	YES	YES
Lender FE	NO	NO	YES	YES	YES
Firm FE	NO	NO	NO	YES	YES
Constant	3.548*** (0.272)	2.581*** (0.341)	2.557*** (0.146)	4.750*** (0.746)	4.777*** (0.552)
Observations	1,453	1,409	1,402	1,402	1,402
R-squared	0.660	0.708	0.720	0.879	0.878

Clustered standard errors at country level in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 10. The effect of negative media attention on the bank loan spread - Instrumental Variable approach

The Table presents results from the following IV specification:

$$\begin{aligned} \text{Log (All-in Spread Drawn)}_{i,t} &= \alpha + \beta \text{Log}(1 + \text{RRI})_{i,t} + \sum_{j=1}^n \gamma_j \text{Firm Characteristics}_{i,t} + \sum_{h=1}^n \partial_h \text{Loan Characteristics}_{i,t} + \sum_{m=1}^n \zeta_m \text{Year FE}_t \\ &+ \sum_{k=1}^n \eta_k \text{Country FE}_i + \varepsilon_{i,t} \end{aligned}$$

where the dependent variable “All-in Spread Drawn” is our measure of loan cost spread (the DealScan All-in spread drawn), RRI is the aggregate ESG RepRisk measure of negative media attention scaled for market value. Firm characteristics include time variant measures of profitability, leverage and risk, borrower’s balance sheet such as return to equity, earnings per share and the ratio cash over total capital as measure of the profitability of a firm; on the other side, we consider the ratio of total debt over total capital as measure of risk; market-to-book ratio has also been included as a measure of bankruptcy risk. Among variables controlling for heterogeneity of loan characteristics we use facility amount, maturity, loan type, loan purpose, lender relationship, securitization and loan currency (see Table 2 for details). Country of syndication dummies are as well included to capture country fixed effects related to the regulatory environment of the country of syndication, while country fixed effects control for time invariant country characteristics. We as well introduce time fixed effects and the interaction between them and country fixed effects.

The RRI variable is instrumented with the twelve-month lagged sector average score of negative media attention on firm labour relations (forced labour, child labour, discrimination in employment, freedom of association and collective bargaining) misconducts obtained from the RepRisk dataset

VARIABLES	(1)	(2)
	First Stage IV	Second Stage
	Log(1+RRI)	Log (All-In Spread Drawn)
Twelve-Months Lags Sector Average Social RRI	0.125*** (0.0113)	
Log(1+RRI)		0.114** (0.0578)
Maturity	0.00191*** (0.000572)	0.00456*** (0.000615)
Log (Facility amount)	-0.0492*** (0.0107)	-0.0608*** (0.00993)
Log (Sales)	0.0514*** (0.00932)	-0.130*** (0.00967)
EPS	-0.00566** (0.00233)	-0.00817*** (0.00226)
Return On Equity	-0.000332*** (8.91e-05)	-0.000371*** (8.31e-05)
Market Value To Book	-0.00115*** (0.000444)	-0.00154*** (0.000392)
Total Debt/Total Capital	0.00415*** (0.000634)	0.00556*** (0.000536)
Cash	0.736*** (0.166)	0.0634 (0.124)
Collateral	0.154*** (0.032)	0.3266*** (0.057)
Currency FE	YES	YES
Lender FE	YES	YES
Country FE	YES	YES
Year FE	YES	YES
F-test		F(1, 3266)= 158.31 P-val=0.0000
Kleibergen-Paap rk LM statistic (underidentification test)		Chi-sq(1)=139.61 P-val=0.0000
Constant	-0.469*	3.467***

	(0.251)	(0.448)
Observations	3376	3376
R-squared	0.188	0.442

Clustered standard errors at country level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 11. The effect of negative media attention on the bank loan spread - Instrumental Variable approach

The Table presents results from the following IV specification:

$$\begin{aligned} \text{Log (All-in Spread Drawn)}_{i,t} &= \alpha + \beta \text{Log}(1 + \text{RRI})_{i,t} + \sum_{j=1}^n \gamma_j \text{Firm Characteristics}_{i,t} + \sum_{h=1}^n \partial_h \text{Loan Characteristics}_{i,t} + \sum_{m=1}^n \zeta_m \text{Year FE}_t \\ &+ \sum_{k=1}^n \eta_k \text{Country FE}_i + \varepsilon_{i,t} \end{aligned}$$

where the dependent variable “All-in drawn” is our measure of loan cost spread (the DealScan All-in spread drawn), RRI is the aggregate ESG RepRisk measure of negative media attention scaled for market value. Firm characteristics include time variant measures of profitability, leverage and risk, borrower’s balance sheet such as return to equity, earnings per share and the ratio cash over total capital as measure of the profitability of a firm; on the other side, we consider the ratio of total debt over total capital as measure of risk; market-to-book ratio has also been included as a measure of bankruptcy risk. Among variables controlling for heterogeneity of loan characteristics we use facility amount, maturity, loan type, loan purpose, lender relationship, securitization and loan currency (see Table 2 for details). Country of syndication dummies are as well included to capture country fixed effects related to the regulatory environment of the country of syndication, while country fixed effects control for time invariant country characteristics. We as well introduce time fixed effects and the interaction between them and country fixed effects.

We use as instruments of the RRI variable a measure of US state Republican strength and a dummy variable equal to 1 if firm headquarter belongs in a state at the border with the Canada. Republican strength has been measured as the proportion of people that voted the republican party during the presidential election.

VARIABLES	(1) First Stage Log(1+RRI)	(2) Second Stage Log(All-in Spread Drawn)
Republican Strength	0.645*** (0.148)	
Canadian Border	0.0927*** (0.0281)	
Log(1+RRI)		0.454** (0.196)
Maturity	0.00204*** (0.000621)	0.00206*** (0.000760)
Log (Facility amount)	-0.0232** (0.0101)	0.00137 (0.0121)
Log (Sales)	0.0597*** (0.00953)	-0.139*** (0.0174)
Return on equity	-0.000144 (0.000158)	-0.000100 (0.000111)
Total Debt/Total Capital	0.00179*** (0.000615)	0.00429*** (0.000712)
Cash/Total Capital	0.375** (0.166)	-0.0503 (0.139)
EPS	-0.0127*** (0.00210)	-0.000112 (0.00309)
Collateral	0.184*** (0.0333)	0.399*** (0.0433)
Year FE	YES	YES
Constant	-0.771*** (0.111)	4.724*** (0.155)
F-test		F(2, 2885)= 11.11 P-val=0.0000
Kleibergen-Paap rk LM statistic (underidentification test)		Chi-sq(2)= 22.368 P-val=0.0000
Observations	2,905	2,905
R-squared	0.142	0.394

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 12. Effect of the negative media attention on the all- in spread undrawn

The Table presents results from the following specification:

$$\begin{aligned} \text{Log (All - in Spread Undrawn)}_{i,t} &= \alpha + \beta \text{Log}(1 + \text{RRI})_{i,t} + \sum_{j=1}^n \gamma_j \text{Firm Characteristics}_{i,t} + \sum_{h=1}^n \partial_h \text{Loan Characteristics}_{i,t} + \sum_{m=1}^n \zeta_m \text{Year FE}_t \\ &+ \sum_{k=1}^n \eta_k \text{Country FE}_i + \varepsilon_{i,t} \end{aligned}$$

where the dependent variable “All-in Spread Undrawn” is our measure of loan cost spread (the DealScan All-in spread undrawn), RRI is the aggregate ESG RepRisk measure of negative media attention scaled for market value. Firm characteristics include time variant measures of profitability, leverage and risk, borrower’s balance sheet such as return to equity, earnings per share and the ratio cash over total capital as measure of the profitability of a firm; on the other side, we consider the ratio of total debt over total capital as measure of risk; market-to-book ratio has also been included as a measure of bankruptcy risk. Among variables controlling for heterogeneity of loan characteristics we use facility amount, maturity, loan type, loan purpose, lender relationship, securitization and loan currency (see Table 2 for details). Country of syndication dummies are as well included to capture country fixed effects related to the regulatory environment of the country of syndication, while country fixed effects control for time invariant country characteristics. We as well introduce time fixed effects and the interaction between them and country fixed effects.

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) OLS
Log (1+RRI)	0.287*** (0.0130)	0.160*** (0.00370)	0.149*** (0.00510)	0.143*** (0.00434)
Maturity		-0.000289 (0.000499)	0.000157 (0.000631)	-0.000569 (0.000933)
Log (Facility amount)		-0.0848*** (0.0108)	-0.0775*** (0.00757)	-0.0887*** (0.00624)
Log (Sales)		-0.159*** (0.0176)	-0.149*** (0.0102)	-0.162*** (0.00754)
Total Debt/Total Assets		0.00559*** (0.000540)	0.00536*** (0.000378)	0.00439*** (0.000293)
Return on equity total		-6.99e-05 (6.29e-05)	-0.000226 (0.000138)	-0.000189 (0.000115)
EPS			-0.00545*** (0.000502)	-0.00590*** (0.000621)
Market Value To Book			-0.00119* (0.000639)	-0.00104* (0.000542)
Cash			-0.260*** (0.0614)	-0.207*** (0.0513)
Secured		0.509*** (0.0228)	0.518*** (0.0117)	0.537*** (0.0112)
Currency FE	NO	YES	YES	YES
Loan Type FE	NO	YES	YES	YES
Loan Purpose FE	NO	YES	YES	YES
Seniority FE	NO	YES	YES	YES
Sectors FE	NO	YES	YES	YES
Country FE	NO	YES	YES	YES
Year FE	NO	YES	YES	YES
Country*Year FE	NO	NO	YES	YES
Lender FE	NO	NO	NO	YES
Constant	2.593*** (0.0499)	3.442*** (0.143)	2.332*** (0.0484)	2.062*** (0.0549)
Observations	2,401	2,288	2,211	2,210
R-squared	0.049	0.693	0.710	0.726

Clustered standard errors at country level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 13. Effect of the number of negative CSR mentions on the bank loan spread

The Table presents results from the following specification:

$$\begin{aligned} \text{Log (All - in Spread Drawn)}_{i,t} &= \alpha + \beta (\text{Total Mentions})_{i,t} + \sum_{j=1}^n \gamma_j \text{Firm Characteristics}_{i,t} + \sum_{h=1}^n \delta_h \text{Loan Characteristics}_{i,t} \\ &+ \sum_{m=1}^n \zeta_m \text{Year FE}_t + \sum_{k=1}^n \eta_k \text{Country FE}_i + \varepsilon_{i,t} \end{aligned}$$

where the dependent variable “All-in draw” is our measure of loan cost spread (the DealScan All-in spread drawn), Total Mentions is number of related corporate misconducts mentions that each firm has in the news scaled by the market value of the firm. Firm characteristics include time variant measures of profitability, leverage and risk, borrower’s balance sheet such as return to equity, earnings per share and the ratio cash over total capital as measure of the profitability of a firm; on the other side, we consider the ratio of total debt over total capital as measure of risk; market-to-book ratio has also been included as a measure of bankruptcy risk. Among variables controlling for heterogeneity of loan characteristics we use facility amount, maturity, loan type, loan purpose, lender relationship, securitization and loan currency (see Table 2 for details). Country of syndication dummies are as well included to capture country fixed effects related to the regulatory environment of the country of syndication, while country fixed effects control for time invariant country characteristics. We as well introduce time fixed effects and the interaction between them and country fixed effects.

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) OLS
Total Mentions	0.00916** (0.00352)	0.00708*** (0.00134)	0.00733*** (0.00113)	0.0363*** (0.00780)
Maturity		0.000333 (0.000584)	0.000241 (0.000331)	0.000144 (0.000367)
Log (Facility amount)		-0.0685*** (0.0106)	-0.0618*** (0.00762)	-0.0704*** (0.00864)
Log (Sales)		-0.0982*** (0.0182)	-0.0996*** (0.0198)	-0.109*** (0.0167)
Total Debt/ Total Assets		0.00433*** (0.000846)	0.00441*** (0.000884)	0.00413*** (0.000804)
Return on equity total		-9.48e-05** (3.94e-05)	-0.000166*** (1.50e-05)	-0.000168*** (1.46e-05)
EPS			-0.00499*** (0.000688)	-0.00453*** (0.000761)
Market Value To Book			-0.00102*** (0.000286)	-0.000991*** (0.000291)
Cash			0.0467 (0.104)	0.0148 (0.116)
Secured		0.319*** (0.0361)	0.331*** (0.0174)	0.331*** (0.0152)
Currency FE	NO	YES	YES	YES
Loan Type FE	NO	YES	YES	YES
Loan Purpose FE	NO	YES	YES	YES
Seniority FE	NO	YES	YES	YES
Sectors FE	NO	YES	YES	YES
Country FE	NO	YES	YES	YES
Year FE	NO	YES	YES	YES
Country*Year FE	NO	NO	YES	YES
Lender FE	NO	NO	NO	YES
Constant	4.802*** (0.0273)	5.825*** (0.140)	5.765*** (0.0926)	5.785*** (0.109)
Observations	4,235	3,946	3,772	3,761
R-squared	0.005	0.631	0.668	0.677

Clustered standard errors at country level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 14. The effect of negative media attention on the bank loan spread removing the years of the financial crisis
The Table presents results from the following specification:

$$\begin{aligned} & \text{Log}(All - in \text{ Spread Drawn})_{i,t} \\ &= \alpha + \beta \text{Log}(1 + RRI)_{i,t} + \sum_{j=1}^n \gamma_j \text{Firm Characteristics}_{i,t} + \sum_{h=1}^n \partial_h \text{Loan Characteristics}_{i,t} + \sum_{m=1}^n \zeta_m \text{Year FE}_t \\ &+ \sum_{k=1}^n \eta_k \text{Country FE}_i + \varepsilon_{i,t} \end{aligned}$$

where the dependent variable “All-in Spread Drawn” is our measure of loan cost spread (the DealScan All-in spread drawn), RRI is the aggregate ESG RepRisk measure of negative media attention scaled for market value. Firm characteristics include time variant measures of profitability, leverage and risk, borrower’s balance sheet such as return to equity, earnings per share and the ratio cash over total capital as measure of the profitability of a firm; on the other side, we consider the ratio of total debt over total capital as measure of risk; market-to-book ratio has also been included as a measure of bankruptcy risk. Among variables controlling for heterogeneity of loan characteristics we use facility amount, maturity, loan type, loan purpose, lender relationship, securitization and loan currency (see Table 2 for details). Country of syndication dummies are as well included to capture country fixed effects related to the regulatory environment of the country of syndication, while country fixed effects control for time invariant country characteristics. We as well introduce time fixed effects and the interaction between them and country fixed effects.

We gradually eliminate from the sample loans that have been issued during the period spanning going from 2007 until 2010.

VARIABLES	(1) Dropping the year 2007	(2) Dropping years 2007- 2008	(3) Dropping years 2007- 2009
Log(1+RRI)	0.0929*** (0.00763)	0.0944*** (0.00688)	0.0929*** (0.00770)
Maturity	0.000159 (0.000523)	0.000626 (0.000469)	0.000675* (0.000378)
Log (Facility amount)	-0.0643*** (0.00734)	-0.0614*** (0.00622)	-0.0647*** (0.00554)
Log (Sales)	-0.0953*** (0.0185)	-0.0859*** (0.0155)	-0.0829*** (0.0146)
Total Debt/Total Assets	0.00400*** (0.000724)	0.00428*** (0.000632)	0.00420*** (0.000653)
Return On Equity	-0.000146*** (1.09e-05)	-0.000141*** (1.31e-05)	-0.000136*** (1.42e-05)
EPS	-0.00401*** (0.000896)	-0.00329*** (0.000814)	-0.00321*** (0.000896)
Market Value To Book	-0.00100*** (0.000296)	-0.00108*** (5.01e-05)	-0.00110*** (5.92e-05)
Cash	-0.0551 (0.138)	-0.0682 (0.125)	-0.0750 (0.129)
Secured	0.292*** (0.0111)	0.282*** (0.00750)	0.288*** (0.00888)
Currency FE	YES	YES	YES
Loan Type FE	YES	YES	YES
Loan Purpose FE	YES	YES	YES
Seniority FE	YES	YES	YES
Sectors FE	YES	YES	YES
Country FE	YES	YES	YES
Year FE	YES	YES	YES
Country*Year FE	YES	YES	YES
Lender FE	YES	YES	YES
Constant	4.963*** (0.213)	5.284*** (0.282)	4.189*** (0.225)
Observations	3,312	3,090	2,925
R-squared	0.598	0.592	0.609

Clustered standard errors at country level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 15. Benchmark model (estimated for high/low performance and high/low leverage borrowers and for borrowers who signed the UN Global Compact)

The Table presents results from the following specification:

$$\begin{aligned} \text{Log (All-in Spread Drawn)}_{i,t} \\ = \alpha + \beta \text{Log}(1 + \text{RRI})_{i,t} + \sum_{j=1}^n \gamma_j \text{Firm Characteristics}_{i,t} + \sum_{h=1}^n \delta_h \text{Loan Characteristics}_{i,t} + \sum_{m=1}^n \zeta_m \text{Year FE}_t + \sum_{k=1}^n \eta_k \text{Country FE}_i \\ + \varepsilon_{i,t} \end{aligned}$$

where the dependent variable “All-in Spread Drawn” is our measure of loan cost spread (the DealScan All-in spread drawn), RRI is the aggregate ESG RepRisk measure of negative media attention scaled for market value. Firm characteristics include time variant measures of profitability, leverage and risk, borrower’s balance sheet such as return to equity, earnings per share and the ratio cash over total capital as measure of the profitability of a firm; on the other side, we consider the ratio of total debt over total capital as measure of risk; market-to-book ratio has also been included as a measure of bankruptcy risk. Among variables controlling for heterogeneity of loan characteristics we use facility amount, maturity, loan type, loan purpose, lender relationship, securitization and loan currency (see Table 2 for details). Country of syndication dummies are as well included to capture country fixed effects related to the regulatory environment of the country of syndication, while country fixed effects control for time invariant country characteristics. We as well introduce time fixed effects and the interaction between them and country fixed effects.

The model is estimated in column 1 for the subsample of companies with leverage above median and ROE below median and in column 2 for the subsample of companies with leverage below median and ROE above median. In column 3, we test the effect of negative media attention for companies signing the UN Global Compact with UNGC being a dummy taking value one if the borrower signed the UN Global Compact..

VARIABLES	(1) Leverage above median and ROE below median	(2) Leverage below median and ROE above median	(3) All sample
Log (1+RRI)	0.0906*** (0.00941)	0.0869*** (0.0120)	0.0747*** (0.000688)
UNGC			-0.105*** (0.0108)
UNGC*Log(1+RRI)			0.0848*** (0.00924)
Maturity	0.000537 (0.000555)	-0.00198 (0.00117)	-0.000123 (0.000254)
Log (Facility amount)	-0.0442*** (0.0108)	-0.0684*** (0.0101)	-0.0701*** (0.00638)
Log (Sales)	-0.0727 (0.0603)	-0.109*** (0.00731)	-0.0959*** (0.0108)
Total Debt/Total Assets	0.00877*** (0.000515)	0.00333*** (0.000510)	0.00416** (0.000722)
Return on Equity	-0.000181** (6.93e-05)	-0.00159** (0.000575)	-0.000130*** (3.85e-06)
EPS	0.00184 (0.00124)	-0.00339** (0.00130)	-0.00407*** (0.000245)
Market Value To Book	-0.000784*** (0.000184)	-0.0328*** (0.00898)	-0.00116*** (2.80e-05)
Cash	-0.287*** (0.0816)	0.607*** (0.117)	0.0781 (0.0602)
Secured	0.357*** (0.0270)	0.282*** (0.0147)	0.348*** (0.00244)
Currency	YES	YES	YES
Loan Type	YES	YES	YES
Sectors	YES	YES	YES
Country	YES	YES	YES
Year FE	YES	YES	YES
Country*Year FE	YES	YES	YES
Primary Purpose FE	YES	YES	YES
Country Of Syndication	YES	YES	YES
Lenders	YES	YES	YES
Constant	3.839*** (0.606)	4.495*** (0.106)	4.934*** (0.0195)
Observations	924	938	3072
R-squared	0.781	0.754	0.657

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 16. The effect of prior lending Relationships

$$\begin{aligned}
& \text{Log (All-in Spread Drawn)}_{i,t} \\
& = \alpha + \beta \text{Log}(1 + \text{RRI})_{i,t} + \gamma_1 \text{Lead Arranger-Borrower Prior Relationship}_{i,t} + \gamma_2 \text{Log}(1 + \text{RRI})_{i,t} \\
& \quad * \text{Lead Arranger-Borrower Prior Relationship}_{i,t} + \sum_{j=1}^n \delta_j \text{Firm Characteristics}_{i,t} \\
& \quad + \sum_{h=1}^n \zeta_h \text{Loan Characteristics}_{i,t} + \sum_{m=1}^n \eta_m \text{Year FE}_t + \sum_{b=1}^n \lambda_k \text{Country FE}_i + \varepsilon_{i,t}
\end{aligned}$$

where the dependent variable “All-in Spread Drawn” is our measure of loan cost spread (the DealScan All-in spread drawn), RRI is the aggregate ESG RepRisk measure of negative media attention scaled for market value. The Lender Arranger-Borrower Relationship variable is in turn: i) a dummy variable taking value one if there has been a previous lending relationship between the lead arranger and the borrower (column 1); ii) the percentage of number of loans for the lender-borrower pair on total number of loans by borrower (column 2); iii) the amount of loans for the lender-borrower pair on total number of loans by borrower (column 3). Firm characteristics include time variant measures of profitability, leverage and risk, borrower’s balance sheet such as return to equity, earnings per share and the ratio cash over total capital as measure of the profitability of a firm; on the other side, we consider the ratio of total debt over total capital as measure of risk; market-to-book ratio has also been included as a measure of bankruptcy risk. Among variables controlling for heterogeneity of loan characteristics we use facility amount, maturity, loan type, loan purpose, lender relationship, securitization and loan currency (see Table 2 for details). Country of syndication dummies are as well included to capture country fixed effects related to the regulatory environment of the country of syndication, while country fixed effects control for time invariant country characteristics. We as well introduce time fixed effects and the interaction between them and country fixed effects.

VARIABLES	(1) OLS	(2) OLS	(3) OLS
Log(1+RRI)	0.0868*** (0.00898)	0.0895*** (0.00808)	0.0917*** (0.00782)
Lead Arranger	-0.0572*** (0.0123)		
Lead Arranger*Log(1+RRI)	-0.0396*** (0.0125)		
Percent Loan Relationship		-0.0427* (0.0221)	
Log(1+RRI)* Percent Loan Relationship		-0.0656*** (0.0190)	
Amount Loan Relationship			-0.0338 (0.0210)
Log(1+RRI)*Amount Loan Relationship			-0.0750*** (0.0187)
Maturity	0.000108 (0.000308)	0.000142 (0.000308)	0.000157 (0.000319)
Log (Facility amount)	-0.0676*** (0.00748)	-0.0688*** (0.00770)	-0.0685*** (0.00762)
Log(Sales)	-0.105*** (0.0172)	-0.106*** (0.0172)	-0.106*** (0.0170)
Total Debt/Total Assets	0.00428*** (0.000795)	0.00417*** (0.000820)	0.00416*** (0.000807)
Return on Equity	-0.000159***	-0.000144***	-0.000151***

		(1.30e-05)	(1.38e-05)	(1.44e-05)
EPS		-0.00377***	-0.00383***	-0.00380***
		(0.000671)	(0.000625)	(0.000620)
Market Value To Book		-0.000956***	-0.000924***	-0.000940***
		(0.000253)	(0.000259)	(0.000255)
Cash		-0.0166	-0.00148	0.00110
		(0.112)	(0.113)	(0.112)
Collateral		0.333***	0.331***	0.330***
		(0.0152)	(0.0146)	(0.0154)
Secured	YES		YES	YES
Currency FE	YES		YES	YES
Loan Type FE	YES		YES	YES
Loan Purpose FE	YES		YES	YES
Seniority FE	YES		YES	YES
Sectors FE	YES		YES	YES
Country FE	YES		YES	YES
Year FE	YES		YES	YES
Country*Year FE	YES		YES	YES
Lender FE	YES		YES	NO
Constant		5.623***	5.643***	5.649***
		(0.105)	(0.104)	(0.103)
Observations		3,734	3,734	3,731
R-squared		0.681	0.680	0.680

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Appendix

Environment

Climate change, GHG emissions, and global pollution
Local pollution
Impacts on landscapes, ecosystems, and biodiversity
Overuse and wasting of resources
Waste issues
Animal mistreatment

Social

Community Relations

Human rights abuses,
corporate complicity
Impacts on communities
Local participation issues
Social discrimination

Employee Relations

Forced labor
Child labor
Freedom of association and collective bargaining
Discrimination in employment
Occupational health and safety issues
Poor employment conditions

Governance

Corruption, bribery, extortion, money laundering
Executive compensation issues
Misleading communication, e.g. “greenwashing”
Fraud
Tax evasion
Tax optimization
Anti-competitive practices
